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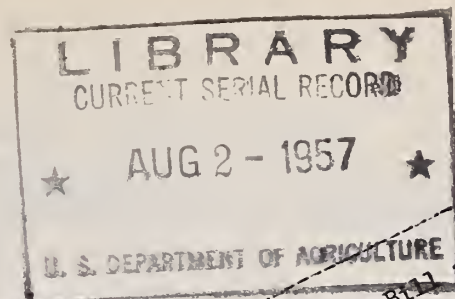
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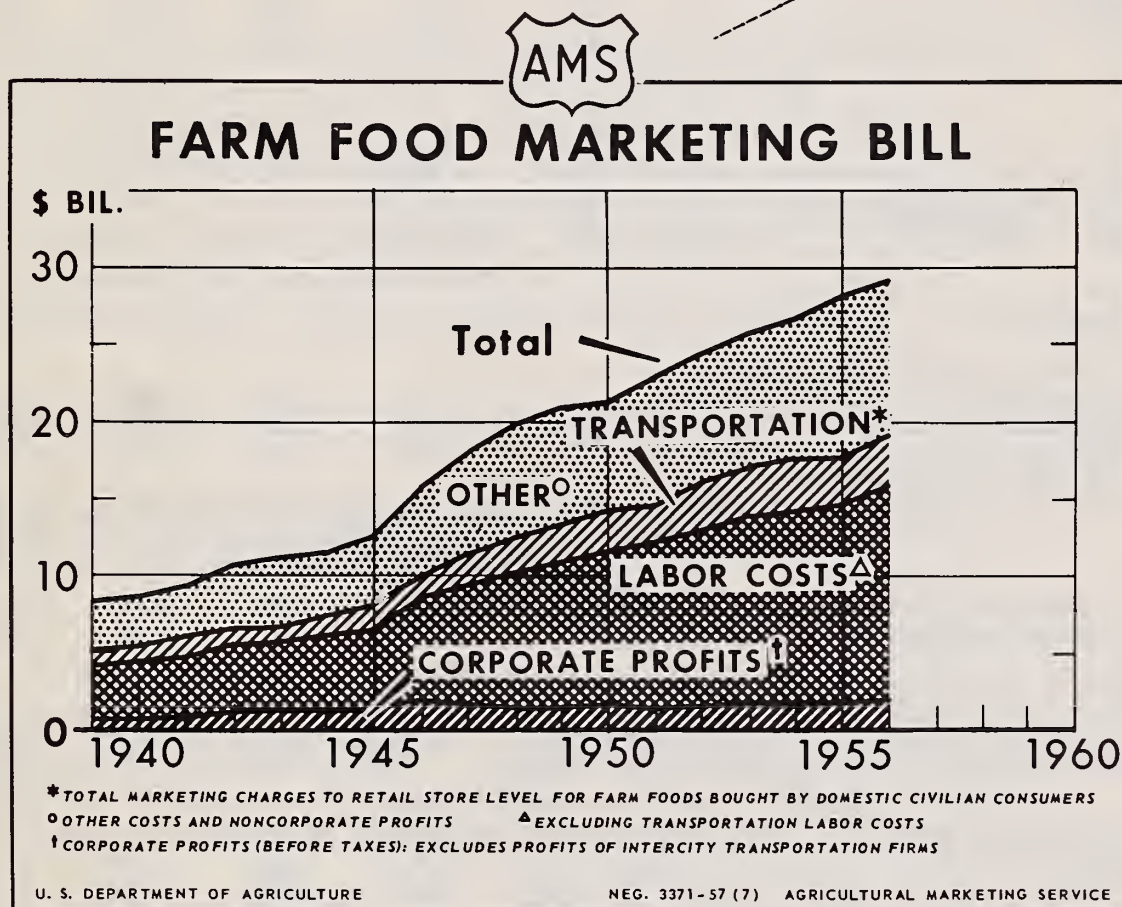
# The MARKETING and TRANSPORTATION SITUATION

MTS-126



July 1957  
FOR RELEASE  
JULY 31, A. M.

In this issue:  
The Food Marketing Bill and Its  
Components  
Changing Composition of Labor  
Force ...  
Potentials of the St. Lawrence  
Seaway ...



The bill for marketing farm-produced food products sold to civilian consumers in 1956 was nearly 50 percent larger than the average for 1947-49. Most of this increase resulted from rises in costs of performing marketing services and expansion in the volume of products marketed, but additional services per unit of product probably accounted for a part of it. All components of the marketing bill were larger

in 1956 than in 1947-49, but the proportion each represented of the total did not change appreciably. Percentages of the marketing bill that each represented in 1947-49 and 1956, respectively, were: Labor costs, 45 and 48; transportation charges, 11 percent in both periods; profits (before taxes) of marketing corporations, 7 and 6; other costs and profits of unincorporated marketing firms, 37 and 35.

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STATISTICAL SUMMARY OF MARKET INFORMATION

Item	Unit or base period:	1956					1957	
		Year	Apr.-June	Oct.-Dec.	Jan.-Mar.	Apr.-June		
<u>Farm-to-retail price spreads</u>								
Farm-food market basket: <u>1/</u>								
Retail cost .....	Dol.	976	972	987	988	1,004		
Farm value .....	Dol.	390	394	393	387	394		
Marketing margin .....	Dol.	586	578	594	601	610		
Farmer's share of retail cost .....	Pct.	40	41	40	39	39		
Cotton: <u>2/</u>								
Retail cost .....	Dol.	55.86	55.75	56.22	56.40	---		
Farm value .....	Dol.	7.07	7.19	6.97	6.72	---		
Marketing margin .....	Dol.	48.79	48.56	49.25	49.68	---		
Farmer's share of retail cost .....	Pct.	13	13	12	12	---		
Tobacco: <u>3/</u>								
Retail cost .....	Dol.	3.45	---	---	---	---		
Farm value .....	Dol.	.55	---	---	---	---		
Federal and State excise taxes .....	Dol.	1.37	---	---	---	---		
Marketing margin excluding excise taxes .....	Dol.	1.53	---	---	---	---		
Farmer's share of retail cost .....	Pct.	16	---	---	---	---		
<u>General economic indicators</u>								
Consumers' per capita income and expenditures: <u>4/</u>								
Disposable personal income .....	Dol.	1,705	1,698	1,731	1,736	---		
Expenditures for goods and services .....	Dol.	1,580	1,572	1,599	1,616	---		
Expenditures for food .....	Dol.	419	417	421	427	---		
Expenditures for food as percentage of disposable income .....	Pct.	25	25	24	25	---		
		1956			1957			
		Year	May	Mar.	Apr.	May		
Hourly earnings per employed factory worker <u>5/</u> ...	Dol.	1.98	1.97	2.05	2.06	2.06		
Hourly earnings of food marketing employees <u>6/</u> ...	Dol.	1.81	1.82	1.88	1.88	1.90		
Retail sales: <u>7/</u>								
Food stores .....	Mil. dol.	3,683	3,672	3,816	3,822			
Apparel stores .....	Mil. dol.	963	965	956	1,008			
Manufacturers' inventories: <u>7/</u>								
Food and beverage .....	Mil. dol.	4,563	4,467	4,752	4,732	4,728		
Textile .....	Mil. dol.	2,566	2,526	2,618	2,571	2,524		
Tobacco .....	Mil. dol.	1,852	1,866	1,996	2,027	2,052		
Indexes of industrial production: <u>8/</u>								
Food and beverage manufactures .....	1947-49=100:	113	111	113	110	110		
Textiles and apparel .....	do.	108	107	104	105	105		
Tobacco manufactures .....	do.	107	106	111	109	---		
Index of physical volume of farm marketings .....	do.	120	94	90	90	96		
<u>Price indexes</u>								
Consumer price index <u>5/</u> .....	1947-49=100:	116	115	119	119	120		
Wholesale prices of food <u>5/</u> .....	do.	101	102	101	102	103		
Wholesale prices of cotton goods <u>5/</u> .....	do.	93	93	91	91	91		
Wholesale prices of woolen and worsted goods <u>5/</u> ..	do.	104	103	109	110	111		
Prices received by farmers <u>9/</u> .....	do.	87	89	87	89	90		
Prices paid by farmers <u>9/</u> .....	do.	110	110	113	114	114		

1/ Average quantities of farm food products purchased per wage-earner and clerical-worker family in 1952.

2/ 42 cotton articles of clothing and housefurnishings, weighted by average annual quantities bought by wage earners and clerical workers as reported in 1934-36 survey. Data are for last month of quarter. 3/ 4 tobacco products from 1 pound of leaf tobacco (farm-sales weight), weighted by leaf equivalent of tax-paid withdrawals. Preliminary data for the fiscal year beginning July 1956. 4/ Seasonally adjusted annual rates, calculated from Dept. of Commerce data.

5/ Dept. of Labor. 6/ Weighted composite earnings in food processing, wholesale trade, retail food stores, calculated from data of Dept. of Labor. 7/ Seasonally adjusted, Dept. of Commerce. Annual data for 1956 are on an average monthly basis. 8/ Seasonally adjusted, Board of Governors of Federal Reserve System. 9/ Converted from 1910-14 base.



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## Highlights

Some further increases in marketing charges are expected during the second half of 1957. Wage rates probably will continue upward and the railroads have asked the Interstate Commerce Commission to allow further increases in freight rates. Recent increases in prices of steel may be followed by advances in many prices that affect marketing costs.

### Marketing Charges Continue Upward

Charges for assembling, processing, and distributing the foods in the family "market basket" rose 1 percent from the first to the second quarter of this year. <sup>1/</sup> The total marketing margin for these foods was at an annual rate of \$610 in the second quarter, 6 percent higher than in the same quarter of 1956. <sup>2/</sup> (See table on inside of cover page.)

The margin advanced during 1955 to a peak in the fourth quarter of that year but declined in the first half of 1956. Since then, the margin has increased in each quarter.

Marketing charges for all product groups in the market basket were higher in the second quarter this year than a year earlier (table 21, p. 45). Increases ranged from 1 percent for poultry and eggs to 11 percent for the meat products and fats and oils groups.

Costs of performing marketing functions probably were higher in the second quarter of this year than a year earlier. Average hourly earnings of food marketing employees were 4 percent higher in May (the latest month for which data are available) than in the same month of 1956. Prices of fuel, containers, trucks, machinery, and other things marketing firms buy generally were higher. Freight rates of railroads and trucking companies were up.

Charges for marketing food products may increase further this year. Wage rates of marketing workers probably will continue to rise. The railroads have asked for further increases in rates. Recent advances in the price of steel probably will be reflected in higher prices for many of the things marketing firms buy.

### Farm Value of Food Products Same as a Year Earlier

The farm value or payment farmers received for the farm products equivalent to the foods in the market basket was at an annual rate of \$394 in the second quarter of this year, about the same as a year earlier (table 20, p. 44). A 14-percent increase in the farm value of meat products

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<sup>1/</sup> The "market basket" contains the average quantities of farm-produced food products purchased for consumption at home by urban wage-earner and clerical-worker families in 1952. The retail cost of all foods bought per family is more than the retail cost of the "market basket" of farm foods, which does not include imported foods, fishery products, and other foods of nonfarm origin, or costs of meals purchased in public eating places. Additional information concerning the contents of the market basket and methods of estimating market-basket data was given in the Supplement to the July-Sept. 1953 issue of The Marketing and Transportation Situation. "Farm value" is the payment farmers received for the farm products equivalent to the foods in the market basket.

<sup>2/</sup> The marketing margin is the difference between the retail price paid by the consumer and the payment to the farmer for equivalent farm products. It is an estimate of the charges made by marketing agencies for assembling, processing, transporting, and distributing the farm products.



Table 1.- The farm food market basket: Retail cost, farm value, marketing margin, and farmer's share of retail cost, 1947-57

Year and month	Retail cost : 1/ Dollars	Farm value : 2/ Dollars	Marketing : margin : Dollars	Farmer's : share : Percent
1935-39 average ...:	3/	3/	3/	40
1947 .....	932	471	461	51
1948 .....	994	498	496	50
1949 .....	939	435	504	46
1947-49 average ...:	955	468	487	49
1950 .....	924	432	492	47
1951 .....	1,026	495	531	48
1952 .....	1,035	482	553	47
1953 .....	1,010	450	560	45
1954 .....	993	425	568	43
1955 .....	975	396	579	41
1956 <u>4/</u> .....	976	390	586	40
<u>1956</u>				
Jan. ....:	951	369	582	39
Feb. ....:	946	366	580	39
Mar. ....:	949	374	575	39
Apr. ....:	956	382	574	40
May ....:	968	396	572	41
June ....:	991	405	586	41
July ....:	1,005	409	596	41
Aug. ....:	991	403	588	41
Sept. ....:	991	400	591	40
Oct. ....:	991	397	594	40
Nov. ....:	984	390	594	40
Dec. ....:	984	392	592	40
<u>1957</u>				
Jan. ....:	984	391	593	40
Feb. ....:	993	382	611	38
Mar. ....:	987	388	599	39
Apr. ....:	995	394	601	40
May ....:	1,002	390	612	39

1/ Retail cost of average quantities of farm foods purchased per urban wage-earner and clerical-worker family in 1952, calculated from retail prices collected by the Bur. of Labor Statistics.

2/ Payment to farmers for equivalent quantities of farm produce minus imputed value of byproducts obtained in processing.

3/ Comparable dollar figures not available. The farmer's share and index numbers of the retail cost, farm value, and marketing margin for the years 1913-55 were published in the Apr. 1956 issue of this Situation.

4/ Preliminary estimates.

: Current data are given in the Statistical Summary, :  
: a monthly publication of the Agricultural Marketing Service.:

from the comparatively low level a year earlier and a moderate increase for dairy products were offset by decreases for the poultry and eggs, fruits and vegetables, and fats and oils groups. Farm values of the bakery and cereal products and miscellaneous products groups were scarcely changed.

After rising in the first three quarters of 1956, the market basket farm value declined slightly in the final quarter and in the first quarter of this year, but in the second quarter it regained the level of a year earlier. The average for the second quarter was 2 percent higher than that for the first quarter.

Farmers received 39 cents of the dollar consumers spent for farm food products in the second quarter of this year, the same share as in the preceding quarter but 2 cents less than in April-June of 1956. <sup>3/</sup>

### Retail Cost Rises

The retail cost of the foods in the market basket rose 2 percent from the first to the second quarter of this year. The second quarter average of \$1,004 (annual rate) was 3 percent higher than a year earlier and the highest since January-March 1954. Meat products accounted for more than half of the rise but all product groups except poultry and eggs and fruits and vegetables were higher.

### Higher Marketing Margins, Farm Value, and Retail Cost for Beef and Pork

The retail cost and farm value of Choice grade beef were 12 and 13 percent higher, respectively, in the quarter just ended than in the corresponding period last year. The marketing margin was up 10 percent. The live-wholesale and wholesale-retail segments of the marketing margin increased by about the same percentage (table 2).

Prices farmers received for hogs in the second quarter were substantially higher than in the spring of 1956, when they were recovering from the post-World War II low reached in December 1955. The farm value for pork was up 17 percent and the retail price 15 percent from the second quarter 1956 levels. The marketing margin increased 13 percent from the relatively low level a year earlier. Both the live-wholesale and the wholesale-retail segments of the margin were wider than in April-June 1956 (table 3).

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<sup>3/</sup> Estimates of the division of retail cost between farmers and marketing agencies are based on concurrent prices at the farm and retail levels, except for processed fruits and vegetables and sugar. During a period of rising prices, the farmer's share calculated on this basis is somewhat larger than the share derived by comparing prices received by farmers for particular lots of products with prices paid by consumers for the same lots after they have moved through the marketing system. The reverse is true in periods of declining prices.



Table 2.- Beef (Choice grade): Live-wholesale and wholesale-retail margins, by quarters, 1956 to date 1/

Quarter	Live-wholesale (per 100 pounds live weight)				Wholesale-retail (per 100 pounds carcass weight)			
	Wholesale value				Margin			
	Price of steers <u>2/</u>	Carcass <u>3/</u>	Byproducts	Total	Margin	Wholesale price <u>4/</u>	Retail value <u>5/</u>	Margin
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
<u>1956</u>								
Jan.-Mar. ....	19.47	21.02	1.83	22.85	3.38	35.62	49.68	14.06
Apr.-June ....	20.30	20.79	2.00	22.79	2.49	35.24	50.05	14.81
July-Sept. ....	23.76	25.21	2.14	27.35	3.59	42.73	54.80	12.07
Oct.-Dec. ....	22.67	23.70	2.06	25.80	3.13	40.24	56.69	16.45
Average ..	21.55	22.68	2.01	24.70	3.15	38.46	52.80	14.34
<u>1957</u>								
Jan.-Mar. ....	20.84	21.48	1.92	23.40	2.56	36.40	6/53.12	6/16.72
Apr.-June ....	22.85	23.39	2.15	25.54	2.69	39.65	55.92	16.27

1/ Quarterly data for 1949-55 are published in "Beef Marketing Margins and Costs," U. S. Dept. Agr. Misc. Pub. 710, Feb. 1956, tables 1 and 3.

2/ Weighted average of price at 21 leading public stockyards.

3/ Wholesale carcass value is 59 percent of average wholesale price of 100 pounds of Choice grade carcass beef.

4/ Weighted average of prices of Choice grade carcass beef in New York, Chicago, Los Angeles, San Francisco, and Seattle.

5/ Calculated from average retail prices of beef cuts in urban areas, published by Bur. of Labor Statistics. The retail value per 100 pounds carcass weight is 80 percent of average retail cost of 100 pounds of retail cuts, because about 20 pounds of a 100-pound carcass is fat, bone, and trim which is sold by retailers at nominal prices.

6/ Revised.

Table 3.- Pork: Live-wholesale and wholesale-retail margins, by quarters, 1956 to date 1/

Quarter	Live-wholesale (per 100 pounds live weight)			Wholesale-retail (per 100 pounds major cuts)		
	Price of hogs <u>2/</u>	Wholesale value <u>3/</u>	Margin	Wholesale value <u>4/</u>	Retail value <u>5/</u>	Margin
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
<u>1956</u>						
Jan.-Mar. ....	12.82	18.74	5.92	34.19	47.18	12.99
Apr.-June ....	16.42	21.31	4.89	39.13	51.62	12.49
July-Sept. ....	16.77	22.22	5.45	41.09	54.92	13.83
Oct.-Dec. ....	16.12	21.49	5.37	38.66	54.11	15.45
Average ..	15.53	20.94	5.41	38.27	51.96	13.69
<u>1957</u>						
Jan.-Mar. ....	17.76	23.45	5.69	43.21	56.57	13.36
Apr.-June ....	19.09	24.35	5.26	45.48	59.09	13.61

1/ Quarterly data for 1949-55 are published in "Pork Marketing Margins and Costs," U. S. Dept. Agr. Misc. Pub. 711, Apr. 1956, tables 1 and 2.

2/ Average price of 200-220 pound barrows and gilts, Chicago.

3/ Wholesale value at Chicago of 71 pounds of pork and lard obtained from 100 pounds of live hog.

4/ Wholesale value of 100 pounds of major pork cuts at Chicago computed from Livestock Market News and National Provisioner price quotations of individual cuts.

5/ Calculated from average retail prices of major pork cuts in urban areas, published by Bur. of Labor Statistics.



## THE FOOD MARKETING BILL AND ITS COMPONENTS

The bill for marketing farm food products sold to civilian consumers has risen steadily since 1939 (table 4). <sup>1/</sup> In 1956 it was 48 percent larger than the average for 1947-49 with increases in the volume of products marketed and in marketing charges per unit accounting for most of the rise. The volume of products marketed in 1956 was approximately a fourth larger than in 1947-49. Unit marketing charges (table 6) were a fifth higher, reflecting increases in wage rates, transportation rates, and prices of equipment, supplies, and other things marketing firms buy. Added marketing services per unit of product handled (more processing, transportation, and other services) probably accounted for a small part of the increase in the marketing bill.

The marketing bill totaled about 4 percent more in 1956 than in 1955 mainly as the result of a larger volume of products marketed. It amounted to 28.9 billion dollars in 1956, compared with 27.9 billion in 1955 and an average of 19.5 billion dollars in 1947-49. The volume of products marketed was about 4 percent larger and marketing charges per unit were about 1 percent higher in 1956 than in 1955.

For the farm products equivalent to these foods, farmers received 18.8 billion dollars in 1956, 1/2 billion more than in 1955. An increase in the volume of products marketed more than offset a slight decrease in the prices farmers received. During the 10 years, 1947-56, the farm value varied between 17.1 billion dollars in 1949 and 20.2 billion in 1951. The volume sold to consumers increased each year except 1948, and was about one-fourth larger in 1956 than in 1947.

Total retail-store cost of these foods in 1956 is estimated at 47.7 billion dollars compared with 46.2 billion in 1955. This increase, like that in the marketing bill, resulted mainly from an expansion in volume; retail prices of these products averaged about the same in 1956 as in 1955.

The marketing bill made up 61 percent of the retail cost of these food products in 1956, about the same proportion as in 1955 and 1939. During 1947-49 it averaged about 52 percent of the total retail cost.

The bill for marketing each commodity group was substantially larger in 1956 than in 1947-49 (table 4). Increases ranged from 38 percent for poultry and eggs to 59 percent for the meat products group. Higher unit marketing charges and a larger volume of sales accounted for the rise in the meat-marketing bill. The percentage increase in the volume of products marketed was largest for the poultry and eggs group, but the average unit marketing charge for this group increased less than those for most other product groups.

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<sup>1/</sup> This marketing bill is the difference between the retail cost of these foods, valued in terms of retail-store prices, and the farm value or payments received by farmers for the equivalent farm products. Food sold in the form of meals in restaurants and other eating places is valued at what it would have cost in retail stores. These estimates of the retail cost do not include the value of food products not produced on farms in this country, nor of those consumed in households of farms where they are produced.



Table 4.- Marketing bill for farm food products purchased by domestic civilian consumers, retail cost and farm value, all farm foods and five major commodity groups, annual 1913-56 <sup>1/</sup>

Year	All farm foods <sup>2/</sup>			Meat products			Dairy products			Poultry and eggs			Bakery and cereal products			Fruits and vegetables		
	Farm value	Retail cost	Marketing bill	Farm value	Retail cost	Marketing bill	Farm value	Retail cost	Marketing bill	Farm value	Retail cost	Marketing bill	Farm value	Retail cost	Marketing bill	Farm value	Retail cost	Marketing bill
	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.
1913 .....	3.53	7.41	3.88	1.35	2.26	0.91	0.62	1.23	0.61	0.45	0.66	0.21	0.44	1.42	0.98	0.55	1.44	0.89
1914 .....	3.64	7.91	4.27	1.35	2.26	.91	.64	1.28	.64	.47	.67	.20	.49	1.62	1.13	.58	1.69	1.11
1915 .....	3.63	7.99	4.36	1.21	2.16	.95	.66	1.33	.67	.48	.68	.20	.59	1.74	1.15	.56	1.61	1.05
1916 .....	4.35	9.47	5.12	1.50	2.49	.99	.74	1.44	.70	.53	.75	.22	.68	1.99	1.31	.71	2.17	1.46
1917 .....	6.05	12.40	6.35	2.03	3.03	1.00	.94	1.68	.74	.68	.94	.26	1.15	2.78	1.63	.97	3.10	2.13
1918 .....	6.87	13.19	6.32	2.51	3.96	1.45	1.09	1.88	.79	.83	1.19	.36	1.05	2.45	1.40	1.04	2.72	1.68
1919 .....	7.55	15.22	7.67	2.50	4.14	1.64	1.34	2.38	1.04	1.03	1.45	.42	1.21	2.90	1.69	1.13	3.33	2.20
1920 .....	7.36	16.52	9.16	2.15	4.12	1.97	1.40	2.53	1.13	1.10	1.58	.48	1.17	3.16	1.99	1.30	4.21	2.91
1921 .....	5.05	12.57	7.52	1.40	3.45	2.05	1.15	2.34	1.19	.77	1.16	.39	.62	2.42	1.80	.95	2.64	1.69
1922 .....	5.19	12.88	7.69	1.56	3.49	1.93	1.14	2.31	1.17	.75	1.12	.37	.59	2.36	1.77	.99	2.97	1.98
1923 .....	5.62	14.00	8.38	1.58	3.77	2.19	1.39	2.65	1.26	.83	1.24	.41	.59	2.43	1.84	1.03	3.15	2.12
1924 .....	5.87	14.51	8.64	1.73	4.07	2.34	1.34	2.59	1.25	.86	1.31	.45	.67	2.52	1.85	1.06	3.31	2.25
1925 .....	6.77	15.73	8.96	2.10	4.28	2.18	1.47	2.83	1.36	.96	1.41	.45	.87	2.81	1.94	1.15	3.60	2.45
1926 .....	6.95	16.38	9.43	2.18	4.35	2.17	1.53	2.93	1.40	1.03	1.49	.46	.80	2.87	2.07	1.22	3.96	2.74
1927 .....	6.72	16.23	9.51	2.04	4.25	2.21	1.62	3.09	1.47	.96	1.40	.44	.74	2.90	2.16	1.14	3.75	2.61
1928 .....	6.94	16.27	9.33	2.11	4.28	2.17	1.69	3.19	1.50	1.05	1.53	.48	.74	2.98	2.24	1.13	3.47	2.34
1929 .....	7.22	17.08	9.86	2.23	4.45	2.22	1.76	3.33	1.57	1.12	1.70	.58	.68	2.86	2.18	1.21	3.89	2.68
1930 .....	6.33	16.15	9.82	1.94	4.25	2.31	1.57	3.13	1.56	.93	1.51	.58	.56	2.78	2.22	1.13	3.68	2.55
1931 .....	4.66	13.06	8.40	1.37	3.58	2.21	1.25	2.66	1.41	.71	1.20	.49	.35	2.24	1.89	.86	2.84	1.98
1932 .....	3.40	10.61	7.21	.91	2.67	1.76	.97	2.21	1.24	.54	.88	.34	.26	1.91	1.65	.61	2.29	1.68
1933 .....	3.56	10.93	7.30	.92	2.61	1.68	.96	2.17	1.21	.48	.80	.32	.34	2.00	1.60	.73	2.59	1.86
1934 .....	4.27	12.52	7.92	1.13	3.26	1.90	1.12	2.36	1.24	.58	.98	.40	.47	2.38	1.81	.80	2.83	2.03
1935 .....	5.02	12.94	7.58	1.49	3.39	1.70	1.29	2.58	1.29	.75	1.09	.34	.52	2.41	1.75	.79	2.81	2.02
1936 .....	5.78	14.29	8.51	1.79	3.79	2.00	1.42	2.81	1.39	.77	1.16	.39	.58	2.51	1.93	1.00	3.22	2.22
1937 .....	5.98	14.18	8.20	1.90	3.95	2.05	1.49	2.90	1.41	.81	1.24	.43	.61	2.53	1.92	.95	2.76	1.81
1938 .....	5.20	13.39	8.18	1.71	3.57	1.86	1.32	2.72	1.40	.77	1.16	.39	.41	2.42	2.01	.78	2.56	1.78
1939 .....	5.17	13.37	8.19	1.69	3.54	1.85	1.32	2.76	1.44	.72	1.10	.38	.39	2.26	1.87	.86	2.79	1.93
1940 .....	5.6	14.1	8.5	1.8	3.7	1.9	1.5	3.0	1.5	.8	1.2	.4	.4	2.3	1.9	.9	2.9	2.0
1941 .....	7.1	16.3	9.2	2.5	4.3	1.8	1.7	3.4	1.7	1.0	1.4	.4	.5	2.5	2.0	1.1	3.3	2.2
1942 .....	9.3	19.8	10.5	3.2	4.9	1.7	2.1	4.1	2.0	1.4	2.0	.6	.7	2.9	2.2	1.5	4.1	2.6
1943 .....	11.4	22.3	11.1	3.6	5.2	1.8	2.3	4.3	2.0	2.0	2.7	.7	.9	3.3	2.4	2.1	5.0	2.4
1944 .....	11.6	22.5	11.4	3.7	5.3	1.9	2.5	4.5	2.0	1.8	2.5	.7	.9	3.1	2.3	2.3	5.3	3.1
1945 .....	12.6	24.4	12.5	3.7	5.0	1.7	2.6	4.8	2.2	2.3	3.1	.8	1.0	3.5	2.6	2.5	6.4	4.0
1946 .....	15.7	30.8	15.6	5.2	7.3	2.4	3.5	6.3	2.8	2.4	3.4	1.0	1.3	4.2	3.0	2.6	7.2	4.7
1947 .....	18.7	36.5	17.8	7.4	11.0	3.6	3.7	6.6	2.9	2.6	3.8	1.2	1.5	4.8	3.3	2.6	7.5	4.9
1948 .....	19.2	39.0	19.8	7.6	11.6	4.0	4.1	7.4	3.3	3.0	4.3	1.3	1.4	5.3	3.9	2.4	7.6	5.2
1949 .....	17.1	37.9	20.8	6.7	10.8	4.1	3.5	6.8	3.3	2.8	4.1	1.3	1.2	5.5	4.3	2.3	7.9	5.6
1950 .....	17.7	38.9	21.2	7.4	11.5	4.1	3.5	6.9	3.4	2.5	3.9	1.4	1.3	5.5	4.2	2.3	8.0	5.7
1951 .....	20.2	43.0	22.8	8.1	12.4	4.3	4.0	7.7	3.7	3.3	4.8	1.5	1.4	6.1	4.7	2.6	8.7	6.1
1952 .....	20.1	44.5	24.4	7.7	12.5	4.8	4.3	8.2	3.9	3.1	4.6	1.5	1.4	6.2	4.8	2.9	9.6	6.7
1953 .....	19.0	44.6	25.6	7.2	12.3	5.1	3.9	8.0	4.1	3.3	4.8	1.5	1.4	6.3	4.9	2.5	9.5	7.0
1954 .....	13.3	44.9	26.6	7.2	12.5	5.3	3.7	8.1	4.4	2.7	4.3	1.6	1.4	6.5	5.1	2.6	9.8	7.2
1955 .....	13.3	46.2	27.9	6.7	12.7	6.0	3.9	8.5	4.6	2.9	4.5	1.6	1.3	6.6	5.3	2.6	10.1	7.5
1956 <sup>4/</sup> .....	13.3	47.7	23.9	6.6	12.3	6.2	4.1	8.9	4.8	2.9	4.7	1.8	1.3	6.7	5.4	2.9	10.7	7.3

<sup>1/</sup> The retail-cost estimates represent the cost at retail-store prices of all domestic farm foods that were both sold by farmers and bought by civilian consumers in this country. Farm food products sold in the form of meals are included but are valued at what the food would have cost in retail stores. Farm value is adjusted to eliminate imputed value of nonfood by-products. The marketing bill, or total marketing margin, is equal to the difference between the farm value and retail cost except for the years 1933-35 and 1943-46 in which the marketing bill for some groups is adjusted for processor taxes or Government payments to processors.

<sup>2/</sup> Includes vegetable-oil products, sugar, and other miscellaneous food products in addition to the five commodity groups given in this table.

<sup>3/</sup> The estimated farm values of milk, eggs, fruits, lard, and vegetable shortening used in bakery products were deducted from the farm values of other commodity groups and added to the farm value of the bakery and cereal products group.

<sup>4/</sup> Preliminary estimates.

Some of the data for 1947 and later years are revisions of previous estimates.



### The Cost of Labor as a Part of the Marketing Bill 2/

The direct cost of the labor (not including employees of railroads and other for-hire carriers) engaged in marketing domestic farm food products sold to civilian consumers in this country has risen steadily since 1939. It amounted to 13.9 billion dollars in 1956 compared with 8.7 billion in 1947-49 (table 5). This component represented 45 percent of the marketing bill in both 1939 and in 1947-49, 47 percent in 1955, and 48 percent in 1956.

Labor cost includes wages and salaries and imputed costs of labor performed by proprietors and family workers not receiving stated wages or salaries. It also includes supplements to wages and salaries, such as payments to employers to social insurance funds, private pensions and welfare funds, compensation for injuries, and other minor items.

Rising labor costs per unit of product marketed accounted for the larger part of the increase in the labor cost component. Unit labor costs were 27 percent higher in 1956 than in 1947-49, mainly because of increases in hourly earnings of workers (table 6). Increases in supplements to wages and salaries, the so-called fringe benefits, also contributed to this rise. An increase in marketing services per unit of product probably had a part in boosting unit labor costs.

Average hourly earnings of workers engaged in assembling, processing, and distributing farm food products sold to civilian consumers, including an allowance for the cost of labor supplements, were approximately 5 percent higher in 1956 than in 1955 and 50 percent higher than in 1947-49 (table 6).

The greater increase in average hourly earnings than in unit labor costs since 1947-49 indicates that output per man-hour has increased.

Marketing labor represented a larger proportion of the retail cost of these foods in recent years than during the early post-World War II years but about the same proportion as in the prewar years 1939-40.

### Transportation Charges 3/

Charges for intercity transportation of farm foods sold to civilian consumers in 1956 were estimated at 3.3 billion dollars compared with 3.1 billion in 1955 and 2.2 billion in 1947-49 (table 5). Increases in railroad and truck freight rates and expansion in the volume of products shipped accounted for most of the increases in the transportation bill. Rates for protective services also rose. And the average length of haul for some fresh fruits and vegetables and perhaps for some other products increased. These transportation totals include charges for refrigeration and other protective services, but do not include charges for shipments by water and air, or the Federal 3-percent transportation tax.

This transportation component constituted slightly more than 11 percent of the marketing bill in 1956, about the same proportion as in 1947-49 and in 1939.

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2/ For a more comprehensive discussion of the cost of labor in marketing farm food products, see the Apr. 1956 issue of this Situation (MTS-121).

3/ For a more extensive discussion of this subject see "Food Transportation and What It Costs," Agr. Market. Serv., U. S. Dept. Agr. Misc. Pub. 738, Nov. 1956.



Table 5.- Labor, transportation, corporate profits, and other costs for marketing farm food products, United States, 1939-56

Year	Labor <u>1/</u>	Transportation (including labor)	Corporate profits <u>2/</u>		Other <u>3/</u>	Total marketing bill
			Before taxes	After taxes		
	Billion dollars	Billion dollars	Billion dollars	Billion dollars	Billion dollars	Billion dollars
1939 .....	3.7	1.0	0.4	0.3	3.1	8.2
1940 .....	3.9	1.0	.4	.3	3.2	8.5
1941 .....	4.1	1.2	.6	.4	3.3	9.2
1942 .....	4.5	1.0	.9	.4	4.1	10.5
1943 .....	4.6	1.0	1.0	.5	4.5	11.1
1944 .....	5.0	1.1	1.0	.4	4.3	11.4
1945 .....	5.5	1.3	1.0	.5	4.7	12.5
1946 .....	6.7	1.6	1.7	1.0	5.6	15.6
1947 .....	7.9	2.0	1.5	.9	6.4	17.8
1948 .....	8.9	2.2	1.2	.7	7.5	19.8
1949 .....	9.4	2.4	1.3	.8	7.7	20.8
1947-49 av. :	8.7	2.2	1.3	.8	7.3	19.5
1950 .....	9.9	2.6	1.6	.9	7.1	21.2
1951 .....	10.6	2.7	1.3	.6	8.2	22.8
1952 .....	11.4	3.1	1.4	.6	8.5	24.4
1953 .....	12.1	3.3	1.5	.7	8.7	25.6
1954 .....	12.6	3.5	1.5	.7	9.0	26.6
1955 .....	13.0	3.1	1.6	.8	10.2	27.9
1956 <u>4/</u> .....	13.9	3.3	1.8	.9	9.9	28.9

1/ Relates only to food sold to civilian consumers and not to that sold to the Armed Forces or exported. The cost of labor in restaurants and other eating places is not included but the series includes the estimated cost of additional retail-store labor that would be required to handle in retail stores the food sold in eating places. These adjustments are made because the food served in these places is valued at retail-store prices when it is included in the retail cost from which the marketing bill is derived. The cost of labor employed in intercity transportation is not included because payments made for transportation also are compared with the total marketing bill.

2/ Total corporate profits are those received from the marketing of farm produced and domestically consumed food products by corporate establishments only and do not include those of nonincorporated firms. These profits do not include those of firms engaged in intercity transportation.

3/ Includes other costs and noncorporate profits.

4/ Preliminary.

Table 6.- Average hourly earnings and labor costs, profits before taxes, and marketing charges per unit of product for marketing food products sold to civilian consumers, United States, 1939-56

(Index numbers 1947-49 = 100)				
Year	Hourly earnings <u>1/</u>	Unit labor cost <u>2/</u>	Profit (before taxes) per unit of product <u>3/</u>	Unit marketing charges <u>4/</u>
1939 .....	48	54	38	59
1940 .....	48	54	36	58
1941 .....	52	56	55	59
1942 .....	56	58	77	65
1943 .....	61	61	92	69
1944 .....	65	64	88	70
1945 .....	70	70	86	70
1946 .....	81	78	124	79
1947 .....	92	90	108	95
1948 .....	101	103	94	102
1949 .....	107	107	98	103
1947-49 average	100	100	100	100
1950 .....	112	108	113	101
1951 .....	119	117	95	109
1952 .....	125	121	94	114
1953 .....	132	124	100	115
1954 .....	139	125	95	117
1955 .....	143	125	102	119
1956 <u>5/</u> .....	150	127	109	120

1/ Hourly earnings estimated by dividing total labor cost by total man-hours for all workers, including proprietors and family workers.

2/ Unit labor cost is the quotient of the indexes of total cost of labor and of the volume of food products marketed to domestic civilian consumers. The labor cost to which the first index relates is only for food sold to civilian consumers in this country; also the estimated cost of additional labor that would be required to handle in retail stores food sold in eating places has been substituted for the cost of labor in eating places. This adjustment makes the index comparable with that for unit marketing charges.

3/ Profit per unit of product is the quotient of the indexes of total corporate profits from the marketing of farm foods produced and consumed in the United States and the volume of farm food products marketed to domestic civilian consumers. The index of the volume of farm food products marketed was constructed by weighting the quantities sold to civilian consumers by 1947-49 average retail prices.

4/ Calculated from annual average marketing margins between retail cost of a constant market basket of farm food products and payments received by farmers for equivalent farm products; margin has been adjusted for subsidies to marketing firms. The marketing margin is published in this Situation, table 1, p. 5.

5/ Preliminary.



The combined index of railroad freight rates for major agricultural commodities stood at 130 in 1956 (1947-49 = 100), according to a preliminary estimate by the Agricultural Marketing Service. The index for 1939 was 77.

Transportation charges, like most other components of the marketing bill, represented a larger proportion of the retail cost in 1956 than in 1947-49, but about the same proportion as in 1939-40.

#### Corporate Profits 4/

Total profits (before income taxes) of corporations from processing, wholesaling, and retailing farm produced and domestically consumed food products rose from 1.6 billion dollars in 1955 to 1.8 billion dollars in 1956. Profits (after taxes) accounted for half the before-tax figures -- 0.8 billion dollars in 1955 and 0.9 billion in 1956 (table 5). Corporate profits before taxes in 1956 exceeded the previous high of 1.7 billion dollars in 1946 and were 38 percent higher than the average of 1.3 billion dollars for 1947-49.

Corporate profits before taxes represented 6 percent of the marketing bill in 1956. The part of the marketing bill represented by corporate profits before taxes rose from less than 5 percent before World War II to a peak of almost 11 percent in 1946, and since that year ranged from 6 to 8 percent. (If profits of noncorporate firms had been included, the proportion represented by profits would, of course, have been somewhat larger.)

As a proportion of the marketing bill, corporate profits after taxes ranged from about 4 percent before World War II to a high of almost 7 percent in 1946. Since 1946 this proportion has varied from 2 to 5 percent. In 1956 it was slightly more than 3 percent.

As a proportion of the total retail cost of all farm foods sold to civilian consumers, profits (before taxes) earned by food-marketing corporations in 1956 were almost 4 percent. This proportion is the largest since 1950. The largest -- 5.5 percent -- occurred in 1946. During the last 10 years, it ranged between 3.0 percent and 4.1 percent. In recent years, corporate profits after taxes have been about half the before-tax figures. In 1939 before-tax corporate profits represented 3.0 percent of the retail cost, after-tax profits 2.2 percent.

Estimates of profits of unincorporated food-marketing firms are not available for recent years. The Department of Commerce estimated that profits of all noncorporate manufacturers of food and kindred products totaled 215 million dollars in 1949 or about 13 percent of total profits

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4/ For a detailed discussion of profits in marketing food products and a description of the method of estimating the profits component of the marketing bill, see "Trends in Corporate Profits in Marketing Farm Food Products," in the July 1956 issue of this Situation (MTS-122) pp. 9-23.

(before taxes) of both corporate and noncorporate food and kindred products manufacturers. Noncorporate profits came to 387 million dollars or about 21 percent of the total in 1946 and to 88 million dollars or about 14 percent in 1939. It is unlikely that the high proportion of profits accounted for by noncorporate food manufacturing firms during World War II will be regained in future years. Because of inadequate data, profits of noncorporate food marketing firms are not estimated by the Agricultural Marketing Service. For many noncorporate businesses, however, net receipts for the firm are largely a return for the labor of proprietors and family workers who do not draw stated wages or salaries.

Total profits depend on the quantity of products marketed and the average profit per unit. It is estimated that profits (before taxes) per unit of product marketed rose about 7 percent from 1955 to 1956 (table 6). The 1956 level has been exceeded only in 1946 and 1950 and was 9 percent higher than in 1947-49. Since 1939, per unit profits have fluctuated widely. The greatest rise occurred from 1940 to 1946, when per unit profits more than tripled. A rather sharp decline followed. But since 1948 no trend has been evident.

#### Profits of Leading Food-Marketing Firms

Profits (both before and after taxes) of leading food processing firms and for eight of the leading chain retail food store companies, expressed as percentages of sales and of stockholders' equity, averaged higher in 1956 than in any year since 1950 (table 7). Corresponding ratios for five large food wholesaling companies were higher in 1956 than in the preceding year. Profit ratios of these processing and distributing firms in recent years, however, generally have been lower than in the early post-World War II years when profits of many firms were increased by rising inventory values.

Ratios of profits after taxes to stockholders' equity for leading food processing and chain-store companies have averaged higher since World War II than during 1935-39. As a percentage of sales, however, profits after taxes of these companies have been lower throughout most of the postwar period than in 1935-39 (table 7).

#### Other Costs and Noncorporate Profits

Other costs and noncorporate profits, the residual component in the marketing bill, increased from 7.3 billion dollars in 1947-49 and to 9.9 billion in 1956 (table 5), but as a proportion of the marketing bill it decreased from 38 percent in 1939 to 37 percent in 1947-49 and to nearly 34 percent in 1956.

This component includes costs of fuel, electric power, containers, supplies, depreciation, rents, taxes other than those on incomes, interest on borrowed capital, and many other costs, and the profits of unincorporated marketing firms.



Table 7.- Net profits (less provision for taxes on income) as percentage of stockholders' equity and as percentage of sales, leading food and tobacco companies, 1935-56

Year	Food processing companies									
	8 baking companies	7 grain mill products companies	11 meat packers	5 canning companies	10 dairy products companies	10 miscel- laneous food companies 1/	51 companies combined	5 wholesale food distribu- tors	8 retail food chains	5 tobacco companies
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Profits as percentage of stockholders' equity 2/										
Average :										
1935-39 :	8.1	10.4	3.6	5.6	7.9	9.8	7.4	—	8.4	13.9
1940 ... :	7.9	9.8	5.4	6.6	8.7	9.2	7.7	—	9.7	14.2
1941 ... :	7.6	9.5	8.6	10.5	11.1	10.8	9.7	—	9.4	12.3
1942 ... :	9.5	8.0	8.1	8.4	11.3	8.7	9.0	—	7.4	11.0
1943 ... :	9.3	10.2	7.9	8.6	11.5	9.1	9.2	—	7.8	10.4
1944 ... :	8.7	10.3	7.2	9.1	10.1	8.2	8.5	11.2	8.2	9.7
1945 ... :	10.0	10.9	5.2	10.2	10.0	8.1	8.2	12.7	8.1	9.2
1946 ... :	18.3	13.2	9.9	18.4	17.0	12.6	13.6	27.3	18.1	11.4
1947 ... :	15.6	15.7	11.0	13.4	13.2	14.6	13.4	18.8	18.8	12.6
1948 ... :	17.6	14.6	5.6	9.6	12.5	13.5	11.3	16.1	16.9	14.4
1949 ... :	16.5	13.8	3.9	5.4	14.5	10.5	10.0	12.5	15.4	14.3
1950 ... :	15.5	13.4	5.9	15.3	13.3	12.7	11.5	16.0	13.8	13.1
1951 ... :	11.7	11.0	5.1	6.8	10.2	9.0	8.5	9.5	10.0	9.9
1952 ... :	12.1	11.0	3.2	7.5	9.9	9.0	8.1	5.4	9.8	9.5
1953 ... :	12.3	10.7	6.6	6.6	11.0	9.2	9.2	7.1	11.0	10.1
1954 ... :	11.3	12.4	2.7	7.8	12.1	9.9	8.8	7.5	10.9	10.5
1955 ... :	11.3	12.4	6.5	10.0	12.0	10.4	10.1	6.7	10.7	11.9
1956 3/ :	11.4	4/	7.0	4/	12.1	11.2	10.5	7.3	12.8	12.0
Profits as percentage of sales										
Average :										
1935-39 :	7.1	4.2	0.9	3.1	3.1	8.6	3.0	—	1.5	9.1
1940 ... :	6.3	4.6	1.4	3.5	3.2	7.9	3.2	—	1.5	8.4
1941 ... :	5.3	3.5	1.7	3.9	3.4	7.8	3.2	—	1.2	6.5
1942 ... :	4.8	2.6	1.2	3.1	2.9	5.5	2.4	—	.9	5.1
1943 ... :	4.0	2.2	1.1	3.5	2.8	5.0	2.2	—	1.0	4.3
1944 ... :	3.3	2.3	1.0	3.3	2.4	4.9	2.0	.9	1.0	4.0
1945 ... :	3.6	2.6	.9	3.8	2.3	4.0	2.0	1.0	.9	3.8
1946 ... :	6.0	2.8	1.7	6.1	3.5	6.0	3.3	2.2	1.7	4.0
1947 ... :	4.5	2.9	1.2	5.0	2.6	5.6	2.5	1.8	1.5	4.3
1948 ... :	4.9	3.3	.6	3.7	2.5	5.4	2.2	1.8	1.4	5.0
1949 ... :	5.0	3.6	.5	2.4	3.3	4.7	2.1	1.5	1.4	5.4
1950 ... :	4.9	3.1	.8	5.3	3.2	5.3	2.5	1.2	1.2	5.1
1951 ... :	3.5	2.3	.6	2.5	2.2	3.6	1.7	1.1	.9	3.8
1952 ... :	3.5	2.5	.4	2.7	2.1	3.6	1.6	.7	.3	3.4
1953 ... :	3.5	2.5	.8	2.2	2.3	3.6	1.9	1.0	.9	3.8
1954 ... :	3.4	2.9	.3	2.8	2.6	3.8	1.8	1.0	1.0	4.3
1955 ... :	3.4	3.1	.3	3.4	2.6	4.0	2.2	.9	1.0	5.0
1956 3/ :	3.2	4/	.9	4/	2.6	4.0	2.2	1.0	1.1	5.0

1/ Includes sugar and corn refining companies, processors of vegetable oils, and companies manufacturing a wide variety of packaged foods.

2/ Ratio of net profits to average of stockholders' equity at the beginning and end of the year. Stockholders' equity is excess of total balance sheet assets over liabilities.

3/ Preliminary.

4/ Not available.

Compiled from financial statements reported in Moody's Industrials.

# CHANGING COMPOSITION OF LABOR FORCE IN THE FOOD MANUFACTURING INDUSTRY <sup>1/</sup>

The number of employees classified as other-than-production workers increased during the period 1947-56 in the food and kindred products manufacturing industry. But the number of production workers declined.

The number of other-than-production workers increased from about 22 percent of total industry employment in 1947 to 29 percent in 1956 (table 8). This trend in the composition of the labor force also has taken place in other manufacturing industries in the United States and other industrial countries of the world. <sup>2/</sup>

Table 8.- Food and kindred products manufacturing industry:  
Number of employees, 1947-56

Year	Number of -			Other-than- production workers as percentage of -		Production workers as percentage of -	
	Produc- tion workers	Other- than- produc- tion workers	All employ- ees	All employ- ees	1947 average	All employ- ees	1947 average
	Thous.	Thous.	Thous.	Pct.	Pct.	Pct.	Pct.
1947	1,209.0	336.0	1,545.0	22	100	78	100
1948	1,187.0	355.0	1,542.0	23	106	77	98
1949	1,155.0	361.0	1,516.0	24	107	76	96
1950	1,143.0	380.0	1,523.0	25	113	75	94
1951	1,145.5	401.8	1,547.3	26	120	74	95
1952	1,137.2	411.0	1,548.2	26	122	74	94
1953	1,136.2	421.7	1,557.9	27	126	73	94
1954	1,102.3	430.5	1,532.8	28	128	72	91
1955	1,103.3	441.4	1,544.7	29	131	71	91
1956	1,117.1	460.7	1,577.8	29	137	71	92

Compiled from data published by the Bur. of Labor Statistics.

## Workers Engaged in Food Manufacturing

Manufacturers of food and kindred products in 1956 employed a total of about 1,577,800 workers. These represented about one-fourth of the estimated total number of persons in the United States engaged in assembling, processing, and distributing of food and kindred products.

<sup>1/</sup> Prepared by Imogene Bright, Agricultural Economist, Market. Res. Div., Agr. Market. Serv.

<sup>2/</sup> Dynamic Factors in Industrial Productivity, Seymour Melman, p. 70, 1956.



About 1,117,100 of the food manufacturing employees were classified as production workers and the remaining 460,700 as other-than-production workers. <sup>3/</sup>

The definition of "production and related workers" includes "working foremen and all nonsupervisory workers (including lead men and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial, watchman services, products development, auxiliary production for plants' own use (e.g., power plant), record keeping, and other services closely associated with the above production operations." <sup>4/</sup>

Employees classified as other-than-production workers are those who perform administrative, professional, clerical, and sales jobs. This would include selling, accounting, auditing, advertising, research, personnel, and clerical functions.

Changes Made Since 1947 by Industries Manufacturing  
Particular Food Products

From 1947 to 1956, the number of other-than-production workers in the grain mill products manufacturing industry increased from 19 to 29 percent of the industry employment compared with an increase from 22 to 29 percent for the entire food and kindred products manufacturing industry (tables 8 and 9). In bakery products manufacture the number of workers not engaged in production increased from 29 to 41 percent and in dairy products manufacture from 22 to 34 percent. In other segments of the food and kindred products manufacturing industry, percentage increases in other-than-production workers were less than that for the entire industry.

Total number of employees decreased from 1947 to 1956 in 3 of the 6 industries considered in this article (table 9). These employment declines were in the manufacture of grain mill products, sugar products, and dairy products.

The number of production workers decreased in five of the industries. But output, as indicated by the Federal Reserve Board index, increased for each with the exception of bakery products manufacturing (table 10). This index of production measures physical volume. It does not reflect changes in value of products or changes which affect the kind or quality of products, including additional services, produced by food manufacturers.

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<sup>3/</sup> This classification follows the definitions used in publications of the Bur. of Labor Statistics.

<sup>4/</sup> Employment and Earnings, Bur. of Labor Statistics, p. 8E, June 1956.

Table 9.- Employees in major industries manufacturing food and kindred products, 1947, 1950, 1953, and 1956

Industry and year	Number of -			Other-than- production workers as percentage of -		Production workers as percentage of -	
	Thous.	Thous.	Thous.	Pct.	Pct.	Pct.	Pct.
Grain mill products:							
1947 .....	99.7	24.1	123.8	19	100	81	100
1950 .....	88.4	27.9	116.3	24	116	76	89
1953 .....	87.8	32.1	119.9	27	133	73	88
1956 .....	85.1	34.6	119.7	29	144	71	85
Bakery products:							
1947 .....	189.0	78.8	267.8	29	100	71	100
1950 .....	185.5	91.5	277.0	33	116	67	98
1953 .....	180.1	105.8	285.9	37	134	63	95
1956 .....	172.8	118.8	291.6	41	151	59	91
Dairy products:							
1947 .....	102.9	29.4	132.3	22	100	78	100
1950 .....	90.3	34.6	124.9	28	118	72	88
1953 .....	80.4	37.8	118.2	32	129	68	78
1956 .....	74.4	39.2	113.6	34	133	66	72
Meat products:							
1947 .....	223.9	51.5	275.4	19	100	81	100
1950 .....	236.5	59.9	296.4	20	116	80	106
1953 .....	254.9	66.6	321.5	21	129	79	114
1956 .....	266.3	73.8	340.1	22	143	78	119
Canning and preserving:							
1947 .....	210.7	26.8	237.5	11	100	89	100
1950 .....	196.6	28.9	225.5	13	108	87	93
1953 .....	207.0	31.2	238.2	13	116	87	98
1956 .....	209.8	33.9	243.7	14	126	86	100
Sugar products:							
1947 .....	33.9	4.5	38.4	12	100	88	100
1950 .....	31.0	4.8	35.8	13	107	87	91
1953 .....	28.6	5.6	34.2	16	124	84	84
1956 .....	27.0	5.6	32.6	17	124	83	80

Compiled from data published by the Bur. of Labor Statistics.



Table 10.- Indexes of production, food and beverage manufactures, 1947, 1950, 1953, and 1956

(1947-49 average = 100)

Industry	1947	1950	1953	1956
Food and beverage manufactures .....	101	103	107	113
Meat products .....	103	105	115	133
Dairy products .....	104	99	105	110
Canned and frozen foods .....	97	110	121	133
Grain mill products .....	103	98	106	101
Bakery products .....	99	102	100	98
Sugar .....	105	115	113	122

Federal Reserve Board.

In each of the six processing industries studied, the percentage of payroll going to administrative, professional, clerical, and sales employees increased. From 1947 through 1954, increases ranged from 2 to 19 percentage points. The largest gain was made by firms processing dairy products except fluid milk (tables 11 and 12).

Several reasons have been given to explain why the number of other-than-production workers increased even when total employment in the industry declined. One is that selling, accounting, auditing, advertising, research, personnel, and clerical operations have expanded steadily. Demands of tax accounting, payroll accounting, budgeting, and labor relations have multiplied. As costs of materials and labor have risen, many firms have intensified cost accounting and budgetary controls.

The number of other-than-production workers also may have increased as techniques of industrial management have changed and as operations have been centralized. The extended scope of management decisions and supervision has added to management operations and staffs. <sup>5/</sup>

The increase in the number of professional, administrative, clerical, and sales workers may reflect the growth that has accompanied industrial expansion since 1947. But the number of production workers has declined or has grown at a slower rate probably because of technological improvements that have enabled a reduced number of workers to produce an increased quantity of goods. Professional, administrative, and clerical operations have not been affected as much over the last decade by the introduction of machinery which enabled tasks to be performed with fewer employees.

<sup>5/</sup> See page 71 of publication cited in footnote 2.

Table 11.- Payrolls for selected food manufacturing industries,  
1947 and 1954

Industry	Payrolls					
	1947			1954		
	Total	Production workers	Other-than-production workers	Total	Production workers	Other-than-production workers
	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.	Mil. dol.
Food and kindred products .....	3,789	2,572	1,217	6,201	3,774	2,427
Canning and preserving:	419	339	80	574	442	132
Grain mill products ...	312	216	96	435	287	148
Sugar products .....	91	76	15	118	93	25
Bakery products .....	765	429	336	1,114	588	526
Meat products .....	782	584	198	1,237	900	337
Dairy products <u>1/</u> .....	226	156	70	322	160	162

1/ Excludes processing and distribution of fluid milk.

Compiled from data published by the Bur. of the Census.

Table 12.- Payrolls for production workers and other-than-production workers  
as a percentage of total payrolls, food manufacturing industries,  
1947 and 1954

Industry	Payrolls					
	1947			1954		
	Total	Production workers	Other-than-production workers	Total	Production workers	Other-than-production workers
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Food and kindred products ...	100	68	32	100	61	39
Canning and preserving ...	100	81	19	100	77	23
Grain mill products .....	100	69	31	100	66	34
Sugar products .....	100	84	16	100	79	21
Bakery products .....	100	56	44	100	53	47
Meat products .....	100	75	25	100	73	27
Dairy products <u>1/</u> .....	100	69	31	100	50	50

1/ Excludes processing and distribution of fluid milk.

Compiled from data published by the Bur. of the Census.



Implications for Agricultural Marketing

The Department of Agriculture's estimates of the total number of workers and the cost of labor in marketing food products include both production workers and other-than-production workers and payments made to them (table 5, p. 11). These aggregates obscure changes taking place in the labor force and do not show the effect of changes in method and size of operation that bring efficiencies. For example, certain efficiencies of scale may cut administrative overhead. Studies made of other industries show that large plants operate with lower ratios of administration to production employees than do small plants. 6/

Production and other-than-production workers both contribute to the value of industry output. Functions performed by administrative and clerical personnel are necessary to the operation of firms and may be one means by which actual productivity can be increased. As industry becomes more complex, a greater number of controls are required to help management increase efficiency. In a mass production economy, research, advertising, and other means of sales promotion are techniques that management can employ in efforts to utilize full productive capacity.

Comparing output of an industry with the total number of employees in that industry obscures the fact that fewer production workers may be engaged in producing the same or a greater quantity of goods. The measurable productivity attributed to all employees also will increase at a slower rate than the output of production workers only. The cost of the increase in number of administrative, clerical, professional, and sales employees may even tend to offset reductions in unit cost attributed to increased output per production worker. Under these circumstances, a rise in the cost of overall operation may accompany increased production efficiencies. When considering methods of cost reduction and operating efficiencies, administrative and clerical functions as well as production functions must be considered. Administrative and clerical costs and functions and the factors causing these functions to expand represent an area for further research in efforts to reduce marketing costs and increase marketing efficiency.

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6/ See p. 161 in publication cited in footnote 2.

POTENTIALS OF THE ST. LAWRENCE SEAWAY  
FOR  
MARKETING UNITED STATES AGRICULTURAL COMMODITIES 1/

:  
: This article analyzes the short-run potentials of the :  
: St. Lawrence Seaway by studying some of the physical problems :  
: encountered and the competition for shipping space among :  
: commodities. As these projected problems become realities, :  
: improvements in the route may be made and the Seaway potential :  
: may continue to increase. Even with these improvements, how- :  
: ever, it is likely that the Great Lakes-St. Lawrence route :  
: will remain primarily an inland waterway. Apparently, this :  
: route will not provide lower cost transportation between the :  
: Midwest and the eastern seaboard. Direct overseas shipments :  
: from the Great Lakes probably will increase. It seems unwar- :  
: ranted, however, to visualize immediate and material changes :  
: in existing transportation channels for agricultural products :  
: from the United States when the Seaway is completed. :  
:

What potentials will the St. Lawrence Seaway have for the marketing and transportation of United States agricultural commodities over the next few years? "The St. Lawrence Seaway" is a name applied to what will be an improved waterway between Ogdensburg, New York, and Montreal (fig. 1). At present the controlling depth for ships in this stretch of the river is 14 feet. The maximum tonnage for ships on the present route is about 3,000 tons. Improvements being made will provide 27-foot channels and seven locks 800 feet long by 80 feet wide. This will enable lake-type ships of up to 25,000 tons and ocean ships of up to 9,000 tons load capacity to navigate through the St. Lawrence waterway. 2/

There is great interest in the possibility that additional United States farm products, grain in particular, might move to foreign and domestic markets via this improved route. Transportation to ports of export today is by an all-rail route, or by the Great Lakes to Buffalo and then by rail, or down the Mississippi River. Small quantities of United States grain are now exported via the St. Lawrence. Larger movements took place before World War II. 3/

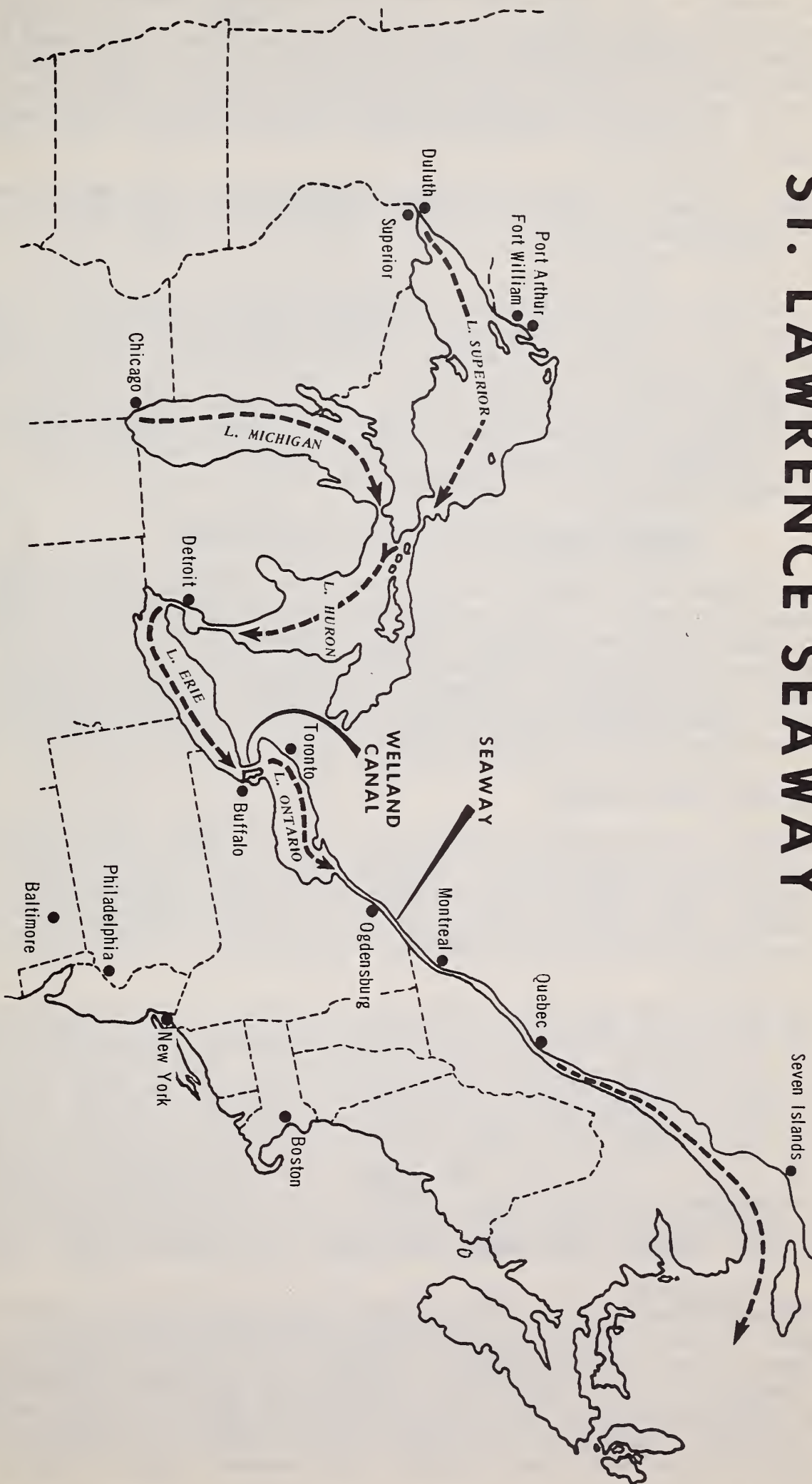
1/ Prepared by Sargent Russell, Assistant Professor of Agricultural Economics, University of Massachusetts, while temporarily employed by the Market Organization and Costs Branch, Agricultural Marketing Service, USDA.

2/ A lake-type ship is longer for its depth than an ocean-type ship and can therefore carry heavier loads in the same depth of water. Lake ships which do not encounter as large waves as do ships on the ocean might break in two in the ocean.

3/ This is the second article on the potentials of the Seaway route to be published in this Situation. See Phillips, S. W., "American Farmers and the St. Lawrence Seaway," The Marketing and Transportation Situation, MTS-118, July 1955.



# ST. LAWRENCE SEAWAY



U.S. DEPARTMENT OF AGRICULTURE

NEG. 4182-57(5) AGRICULTURAL MARKETING SERVICE

Figure 1

The Seaway is only one segment of this great inland waterway. The water route west of the Seaway also needs to be developed. For example, the interlake channel depths at Detroit are today 21 feet upbound and 25 feet downbound. <sup>4/</sup> In March 1956 the United States authorized the Corps of Engineers to deepen the upbound and downbound interlake channels to 27 feet. Total cost has been estimated at 150 million dollars. The earliest completion date is 1963.

Harbor depths are another important consideration. The present harbor depths at Cleveland, Detroit, and Chicago are 25 or 26 feet. These can and probably will be deepened.

In examining the entire route and without trying to guess what future developments may be, this article considers the potentialities in: (1) The length of shipping season, the Welland Canal, and the 27-foot "sea" route; (2) commodity movements - United States coal and Canadian grain; (3) direct overseas service; and (4) costs for domestic service. These potentials are examined in the following sections to determine whether movement of United States agricultural commodities on the Great Lakes-St. Lawrence route can or will expand under improved conditions that are now planned.

#### Physical Potentials of the "Seaway" Route

Many assume that once the St. Lawrence River and interlake channel improvements now under way are completed, movements via the Seaway will attract unlimited ocean shipping. But the shipping season is no more than 8 months long, and there is the possibility that the Welland Canal may become a serious bottleneck. Furthermore, the Great Lakes-St. Lawrence route with channel depths of 27 feet and many locks and its tolls will be a comparatively shallow, slow and expensive route for ocean-going ships.

#### Welland Ship Canal Capacity

The Welland Ship Canal, completed in 1932, was built and is operated entirely by Canada. The canal is 25 miles long, with three twin locks and five single locks. Lock size is similar to those being built on the St. Lawrence. The present 25-foot deep canal is being deepened to 27 feet. It is here that the 326-foot difference in level between Lakes Ontario and Erie is overcome.

The capacity of the Welland Canal is vital to all lake port shipments destined for overseas or to domestic seaboard markets. Its cargo capacity is based on estimates of length of shipping season, time required for moving a ship through a lock and the cargo tonnage carried by the ship. Canadians who have studied the Welland Canal report a practical working capacity of about 46 million tons for movements in both directions. <sup>5/</sup> One-way capacity would be only 23 million tons. The length of the shipping season varies with the weather. In the 5 years, 1951-55, the opening day at the Welland varied from March 22 to March 30, and the closing day from December 17 to December 20. Roughly, the season is 266 days long - about 3 weeks longer

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<sup>4/</sup> "Upbound" means inland from the ocean against the flow of water in the Lakes. "Downbound" is with the flow of water toward the ocean.

<sup>5/</sup> These figures were attributed to Canadian officials by Brig. Gen. B. L. Robinson, Chief of Engineers, Department of the Army, in testimony at the Senate hearings on the St. Lawrence Seaway April 14, 1953, and by N. R. Danielian, President of the Great Lakes-St. Lawrence Association, in a speech before the Detroit Economic Club luncheon, Nov. 15, 1954.



than that on the St. Lawrence. 6/ For the entire Atlantic to Duluth route the season is from about April 10 to December 10, or 244 days.

The time required per lockage at the Welland is about 50 minutes, which permits a total of 28 lockages a day, or 14 a day in each direction. 7/ The theoretical maximum number of lockages in 244 days would be 6,832. The practical maximum number of lockages is estimated at 5,770, or 2,885 in each direction. This lower figure allows for delays and noncargo lockages.

The amount of cargo passed through in each lockage depends upon ship capacity and use of cargo space. The average cargo capacity of Canadian Upper Lake freighters is slightly more than 10,000 tons. The average capacity of United States registry Great Lakes ships, excluding those less than 3,000 tons, is about 11,000 tons. In 1955 about 70 percent of the ships using the Welland Canal were Canadian. If an average of 10,000 tons of cargo were locked through for each of 5,770 lockages, the capacity of the Welland Canal would be 57,700,000 tons.

Actual per ship tonnages even for the larger ships have been less than 10,000 tons. The President of the St. Lawrence Seaway Authority has reported that 56 percent of the cargo tonnage moved through the Welland in 1953 was carried in Upper Lake ships. 8/ Upper Lake ships, however, accounted for only 23 percent of the total passages. Applying these percentages to the tonnage and ship passages for downbound movements on the Welland Canal in 1953, it appears that the average cargo load was about 9,000 tons for the Upper Lake ships. At 9,000 tons per lockage, the capacity of the Welland would be slightly under 52 million tons.

These two estimates - 57.7 and 52.0 million tons - have assumed that all cargoes would move in the larger lake ships. It would have required almost an 80 percent increase in available carrying capacity of larger ships to handle the cargoes that were handled by smaller ships in 1953. Thus, with the ships which are available, the loads which they carry and the number of passages which can be made, the Canadian estimate of 46 million tons two-way capacity may be reasonable.

This capacity will increase as ship capacities increase and small ships are replaced by larger ones. Traffic control and additional guard locks at the Welland Canal might also increase capacity. If the Canal becomes a serious bottleneck, the five single locks could be twinned by Canada for an estimated 125 million to 150 million dollars. Canada is considering this possibility.

In order to relate the importance of this capacity to future movements, it is necessary to examine present usage and flows. In each of the 5 years, 1951 through 1955, the average number of ships per day using the Welland Canal was greater than the maximum number of lockages (table 13). 9/ This is possible because more than one small ship can be locked through at one time. In June 1955, 1,322 ships were locked through - an average of more than 1.5 ships per lockage.

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6/ In the period 1951-55 the number of shipping days ranged from 263 to 268. Dominion Bureau of Statistics, Canal Statistics, Annual Reports for 1951-55.

7/ A "lockage" is the process of moving a ship into a lock, changing the water level, and moving the ship out of the lock.

8/ Chevrier, Lionel, Speech to the Canadian Association of British Manufacturers and Agencies, Toronto, Ontario, April 15, 1955.

9/ The range was from 30.4 ships per day in 1951 to 35.5 ships per day in 1955. Dominion Bureau of Statistics, Canal Statistics, Annual Reports for 1951-55.



Table 13.- Number of vessels using Welland Canal, 1951-55

Country of registry type of vessel, and total	1951	1952	1953	1954	1955
Canada					
Steam .....	5,918	6,864	6,922	6,140	5,504
Other than steam <u>1/</u> .....	170	95	138	80	1,001
Total .....	6,088	6,959	7,060	6,220	6,505
United States					
Steam .....	1,399	1,369	1,210	1,248	477
Other than steam <u>2/</u> .....	428	516	551	488	1,670
Total .....	1,827	1,885	1,761	1,736	2,147
Other countries					
Steam .....	---	---	---	---	129
Other than steam .....	---	---	---	---	553
Total .....	198	314	551	523	682

1/ Total for 1955 includes 934 motor, 61 unriggered, and 6 "other" vessels.

2/ Total for 1955 includes 968 motor, 685 unriggered, and 17 "other" vessels.

Dominion Bureau of Statistics, Canal Statistics, Annual Reports for 1951-55.

Although the number of ships moving up and down through the Welland Canal is about equal, 16,634,000 tons of cargo moved downbound in 1955 and 4,260,000 tons upbound. The average annual downbound movement in the years 1951-55 was 15,556,000 tons (table 14). The present downbound flow is beginning to tax the capacity of the Welland Canal. The 5-year average downbound movement was 68 percent of the estimated one-way capacity of 23 million tons. Downbound movement in 1955 was 72 percent of capacity but upbound was only 18 percent of capacity.

Table 14.- Freight carried through Welland Ship Canal, 1951-55

Direction of movement and total	1951	1952	1953	1954	1955	Average 1951-55
	1,000	1,000	1,000	1,000	1,000	1,000
	short	short	short	short	short	short
	<u>tons</u>	<u>tons</u>	<u>tons</u>	<u>tons</u>	<u>tons</u>	<u>tons</u>
Up .....	2,752	2,289	2,582	2,396	4,260	2,856
Down .....	13,445	15,622	16,960	15,118	16,634	15,556
Total .....	16,197	17,911	19,542	17,514	20,894	18,412

Dominion Bureau of Statistics, Canal Statistics, Annual Reports for 1951-55.



Even if we assume that all movements downbound through the canal in 1955 could have been made in larger lake vessels (with an average load of 9,000 tons as computed above), they would have required 1,848 lockages. This is 64 percent of the practical maximum downbound lockages.

The extent of the usage of the Welland Canal is further indicated in the following statement made by the President of the Canada Steamship Lines to the Canadian Royal Commission on Coasting Trade on June 30, 1955: "Since 1945 the number of vessel passages per season (through the Welland Ship Canal) has grown from about 6,500 to 9,400 at a sacrifice of some 40 percent average increase in passage time. This factor alone results in Canada Steamship Lines vessel income being some \$250,000 yearly less than it would be if their ships could traverse the Welland Canal in the same average passage time as they did in 1945. ... It appears evident ... that the large tonnage which it is anticipated will move through the Welland Canal after the completion of the Seaway cannot possibly be handled satisfactorily within the existing Welland Canal system, with its single locks, bridges, and other time-consuming factors."

This statement would appear to cast some doubt on appreciable increase over present use in downbound movements through the Welland Ship Canal. However, in view of the Canadian estimate of 23 million tons of capacity compared with 16 to 17 million now moving downbound through the canal, an increase of 6 to 7 million tons is possible. If 9,000 tons of cargo were to move through for each lockage, an increase of 8 to 9 million tons above present usage will be possible by using larger ships and maintaining a relatively even flow through the entire shipping season. Twinning the single locks, as already mentioned, would further add to canal capacity.

#### The 27-Foot "Sea" Route

The third limiting physical potential of the Great Lakes-St. Lawrence route is the channels and locks. A depth of 27 feet is not sufficient to accommodate readily most fully loaded ocean-going ships. In 1953 less than 18 percent of the total United States sea-going vessels (1,000 gross tons or more) had a draft of 26-1/2 feet or less. For similar foreign ships the proportion was 67 percent. <sup>10/</sup> In order to achieve safe clearance, however, many of these ships would have to traverse the Seaway with only enough fuel, fresh water, and stores to supply them during the seaway journey. The current estimate of the maximum load which an ocean-going vessel could carry on the Seaway, after it is deepened to 27 feet, is 9,000 tons.

Passage through restricted channels and locks adds 1 or 2 days compared with the time required for moving similar distances in open water. Each day of operation for an ocean-going ship of 8,000 to 9,000 tons capacity costs \$2,000 to \$3,000. This covers all costs except tolls and applies to older ships and foreign flag vessels.

Tolls will add another expense on the Seaway from Montreal to Lake Ontario. The Department of Commerce suggested 50 cents a ton for iron ore, 25 to 35 cents for grain and coal, and \$1.25 for general cargo. <sup>11/</sup>

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<sup>10/</sup> Data supplied by the U. S. Maritime Commission in Senate hearings on the St. Lawrence Seaway, April and May 1953.

<sup>11/</sup> Senate hearings on the St. Lawrence Seaway, April and May 1953.



The Seaway's limitations on use by ocean-going ships will determine partly its share of domestic and export trade. All cargoes for domestic trade must move in United States flag ships according to law. Restrictions on ship size and high cost of operation for United States ships may discourage establishment of such a service. Export cargoes likely will move first in lake-type ships to deeper water points at Montreal and other lower St. Lawrence points. This is true because lake-type vessels of much greater load capacity than ocean-going ships but only slightly increased operating cost will be able to operate in the 27-foot depths. There is, of course, the possibility that new types of ocean ships designed especially for the Seaway may come into use.

### Potential Commodity Movements

Physical limitations of the St. Lawrence Seaway, particularly the Welland Canal, may create competition for available cargo space. Present use and preferences give some indication of how the competition will turn out.

Grain and soft coal equally shared about two-thirds, or 10.3 million tons, of the total tonnage downbound through the Welland Canal during 1951-55, accounting for 5.0 and 5.3 million tons, respectively. Iron ore accounted for an additional 2.5 million tons a year, petroleum and petroleum products about 1.8 million tons, and all other about 1.1 million tons. (Data for 1955 are in table 15.)

Enlargement of the St. Lawrence waterway may make it a more economical route for two types of shipments: (1) Supplying Lake Ontario ports via the St. Lawrence River rather than the Welland Canal; and (2) movements from above the Welland Canal to Montreal or below which use both the Welland and the St. Lawrence. At present, many cargoes in the latter category are transshipped for passage over the St. Lawrence. Both movements may increase because larger ships will be able to operate on the St. Lawrence and offer lower shipping rates.

Iron ore, other mine products, and crude petroleum now move predominantly down the Welland but up the St. Lawrence (table 15). These are commodities which might be supplied to Lake Ontario ports in larger amounts by the St. Lawrence and relieve the Welland route. Iron ore and concentrates offer the best opportunity for a shift of this type. In 1955, however, 1.6 million tons of iron ore moved up the Welland while 2.8 million tons moved down. This inconsistency seems to indicate that factors other than the elimination of cross hauling or the lowest cost transportation route are important in determining the transportation of iron ore. One factor may be that iron and steel plants are owned by different companies, and another may be the composition of the ores. Cross hauling, apparent or real, is a common phenomenon. The fact that it exists may be reason enough to believe that it will continue. Thus, iron ore coming up the St. Lawrence may not supplant iron ore moving down the Welland.



Table 15.- Freight carried through Welland Ship Canal and St. Lawrence Canals, by commodities, 1955

Commodity	Welland		St. Lawrence	
	Up	Down	Up	Down
	1,000	1,000	1,000	1,000
	short	short	short	short
	tons	tons	tons	tons
Animals and animal products .....	5	12	7	16
Grain, flour, and other grain products .....	15	5,313	2	3,740
Other agricultural products .....	2	5	2	19
Bituminous coal .....	12	5,406	4	1,593
Other coal and coke .....	3	15	4	8
Iron ore and concentrates .....	1,587	2,810	1,751	0
Other ores and concentrates .....	35	3	36	3
Other mine products .....	43	111	208	34
Crude petroleum .....	4	1,000	268	0
Gasoline .....	168	255	53	49
Fuel oil .....	508	337	866	118
Other petroleum products .....	337	113	93	36
Sand, gravel, and crushed stone .....	107	65	28	215
Salt .....	0	105	0	101
Pulpwood .....	343	167	439	0
Woodpulp .....	33	20	35	1
Other forest products .....	0	1	34	0
Newsprint .....	351	17	166	5
All iron and steel except scrap .....	44	129	17	47
Scrap iron and steel .....	25	216	4	10
All other .....	638	534	765	670
Total .....	4,260	16,634	4,782	6,665

Dominion Bureau of Statistics, Canal Statistics, Annual Report for 1955.

The prospects for change in source of supply for crude petroleum to Lake Ontario ports seem to rest on the relative price of crude petroleum in the United States and Alberta compared with overseas crude petroleum and on the building of pipelines. With the development of oil production in Alberta and completion of the St. Lawrence Seaway, Alberta oil might move as far as Montreal which would increase volume of crude petroleum downbound through the Welland. <sup>12/</sup> The primary direction of flow at present for refined petroleum, however, is upbound on both the Welland and the St. Lawrence. Thus, as capacity of refineries is increased on the west or upside of the Welland Canal, there may be less call for crude petroleum at Lake Ontario points. This would reduce downbound movements on the Welland.

<sup>12/</sup> Francis S. Doody, "The St. Lawrence Project and New England," Boston University Business Review, Boston University College of Business Administration, Boston, Mass., Spring 1955, Vol. 2, No. 1

If overseas prices of crude petroleum fall sufficiently, a greater volume could be supplied to Lake Ontario points via the St. Lawrence. Pipelines, however, seem to be favored in moving petroleum in the Great Lakes area. A pipeline from Portland, Maine, now provides Montreal a year-round source of crude petroleum from overseas. The pipeline from Superior, Wisconsin, to Sarnia, Ontario, is another now operating. If additional lines are built, movements on the Great Lakes may decrease.

Nevertheless, United States shipments of petroleum are from west to east, generally. If Canadian shipments to the east also gain, downbound traffic on the Welland may not decrease. Development of pipelines and the increased use of overseas oil, however, would determine any change in volume.

Coal and grain cargoes will figure in greater joint use of the Welland and St. Lawrence, thereby increasing downbound tonnage on the Welland. These two commodities, plus iron ore and all petroleum products, account for all but 1.4 million tons which moved downbound through the Welland in 1955.

Data on joint as well as single use of the Welland and St. Lawrence Canals in 1955 show that only about half of the grain and coal which moved down the St. Lawrence had joint movement down the Welland (table 16). More than 1.3 million tons of grain and 0.9 million tons of coal moved downbound on the St. Lawrence which had not moved downbound on the Welland.

Table 16.- Downbound freight movements on the Welland and St. Lawrence Canals (excluding duplications), 1955

Canal	: : Barley:	: : Wheat :	: : Crude : : petro-: : leum :	: : Soft : : coal :	: : Iron : : ore :	: : All : : other :	: : Total :
	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000	: 1,000
	: short	: short	: short	: short	: short	: short	: short
	: <u>tons</u>	: <u>tons</u>	: <u>tons</u>	: <u>tons</u>	: <u>tons</u>	: <u>tons</u>	: <u>tons</u>
St. Lawrence							
only .....	372	993	---	916	---	1,130	3,411
St. Lawrence							
and Welland ..	510	1,034	---	678	---	1,032	3,254
Welland only ...	724	1,690	1,000	4,728	2,810	2,428	13,380

Dominion Bureau of Statistics, Canal Statistics, Annual Report for 1955.

Practically all grain and coal for downbound shipment on the St. Lawrence originate at points above the Welland. Furthermore, the combination of Welland only shipments, plus joint Welland and St. Lawrence shipments, equals the total shipments for the Welland Canal. This, plus the origin of coal and grain, indicates that the coal and grain which moved only on the St. Lawrence were not transshipments of Welland movements.



Once the St. Lawrence route is improved, it may not be as expedient to bypass the Welland. Larger ships will be able to use the St. Lawrence, and the sooner the commodity moves by ship the lower the total transportation charge will be. Therefore, the 2.2 million tons of grain and coal which bypassed the Welland in 1955 may fill part of the 6 to 7 million ton gap estimated as now existing between present use and capacity of the Welland Canal.

#### Potential for Increased Coal Shipments

More through shipments of coal as well as an increase in total amount of coal shipped on the completed waterway will increase downbound traffic on the Welland. Such an increase may occur because the rate of both industrial and population growth in Canada is rapid, with population concentrated along Lake Ontario and the St. Lawrence River. Furthermore, Canadians prefer United States coal over Canadian coal due to quality and price factors.

Coal may be a backhaul cargo for ships carrying an estimated 10 million tons of iron ore from Seven Islands and other foreign sources. Shipments of this volume are expected to move up the Seaway to Lake Erie ports in 1959, the first year of navigation. Tonnages of ore and coal may materially increase as time goes on. 13/

In 1955, downbound coal shipments through the Welland were 5.4 million tons. An additional 0.9 million tons, already mentioned, moved downbound on the St. Lawrence. The difference between 10 million tons of upbound iron ore and downbound coal would be 3.7 million tons. The 2.8 million tons of iron ore moved downbound through the Welland Canal might also be a backhaul cargo. Subtraction of this tonnage from the 3.7 million tons would leave 0.9 million tons of ship cargo capacity for coal.

Nova Scotian coal producers, who supply about 2 million tons of coal to the Quebec market, will try to retain or increase their market in Montreal in competition with United States producers. They may also try to regain that part of the Toronto market which they had before World War II. Their success probably will depend most upon the level of transportation subsidies granted by the Dominion Coal Board. In 1952, the average assistance paid on Nova Scotia coal shipped by water to St. Lawrence River ports was about \$1.45 per ton. It is estimated that opening of the Seaway may reduce transportation costs for United States shippers by \$1.00 per ton. 14/ The Canadian subsidy will probably be the dominant factor in determining future increases in United States coal shipments to Canada.

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13/ Chevrier, Lionel. Address to the Canadian Association of British Manufacturers and Agencies, Toronto, Ontario, April 15, 1955.

14/ Cumming, R. Stanley, "The St. Lawrence Seaway and Nova Scotia's Economy," reprint from The Dalhousie Review, Halifax, Nova Scotia.

# Potential for Increased Canadian Grain Shipments

Canadian grain may be another competitor for United States agricultural commodities in filling the capacity gap at the Welland Canal. The quantity of Canadian grain shipped over the Welland-St. Lawrence route may depend largely on how much grain Canada has available for export. Other factors will be location of carryover, time of grain harvest, and costs of export at Churchill or west coast ports relative to eastern ports. Volume of export looks like the principal factor as seen by examining export clearances (table 17), receipts by vessel and rail at lower St. Lawrence ports (table 18), and flows through the St. Lawrence canals. In the crop years 1951-52 and 1952-53, exports were relatively high. Rail receipts of grain at lower St. Lawrence ports in these two crop years were over 3 million tons compared with less than a million tons in the next 2 crop years. Movements through the St. Lawrence canals for the years 1952-55, however, were stable at about 4 million tons. <sup>15/</sup> Reliance on water transport is reflected further in the receipts of grain at Maritime ports. In the crop year 1953-54 when total exports were low, receipts at Maritime ports were very low.

Table 17.- Export clearance of Canadian grain to overseas destinations, crop years 1951-52 to 1954-55 <sup>1/</sup>

Seaboard area and crop	1951-52:	1952-53:	1953-54:	1954-55
	1,000	1,000	1,000	1,000
	short	short	short	short
	tons	tons	tons	tons
Lower St. Lawrence .....	5,346	6,706	2,937	3,736
Atlantic coast .....	707	1,120	368	1,139
Fort William-Port Arthur (direct) ...	3	14	19	4
Pacific coast .....	3,333	3,532	3,876	2,814
Churchill .....	226	259	329	367
United States ports <sup>2/</sup> .....	184	115	3	34
Total .....	9,799	11,746	7,532	8,094
Wheat .....	7,982	9,183	6,033	6,205
Barley .....	1,433	2,274	1,275	1,392
Oats .....	176	85	64	109
Rye .....	127	90	15	211
Flaxseed .....	81	114	145	177
Total .....	9,799	11,746	7,532	8,094

<sup>1/</sup> In addition to grain exports, wheat flour exports in thousands of tons were 1,533 in 1951-52; 1,695 in 1952-53; 1,387 in 1953-54; and 1,219 in 1954-55.

<sup>2/</sup> Albany, New York, and Norfolk.

Dominion Bureau of Statistics, Grain Trade of Canada, Annual Reports for 1951-52 to 1954-55.

<sup>15/</sup> Dominion Bureau of Statistics, Canal Statistics, Annual Reports for 1952-55.



Table 18.- Receipts of Canadian grain at eastern elevators,  
by vessel and by rail, crop years 1951-52 to 1954-55 1/

Location and transport	1951-52	1952-53	1953-54	1954-55
	1,000	1,000	1,000	1,000
	short	short	short	short
	<u>tons</u>	<u>tons</u>	<u>tons</u>	<u>tons</u>
Lower St. Lawrence				
Vessel .....	2,854	4,002	2,887	3,804
Rail .....	3,010	3,331	789	631
Maritime Provinces				
Vessel .....	1	2	---	---
Rail .....	714	1,240	411	1,154

1/ Receipts include wheat, oats, barley, rye, and flaxseed.  
Dominion Bureau of Statistics, Grain Trade of Canada, Annual Reports  
for 1951-52 to 1954-55.

The cost of export via Canadian Pacific coast ports or Churchill relative to eastern ports could also influence the volume of grain which Canada may ship on the Welland-St. Lawrence route. If, as forecast, the cost of laying down wheat at lower St. Lawrence ports is reduced "in the neighborhood of 5 cents a bushel," 16/ some wheat and other grains may be diverted from Canadian Pacific coast export.

Since World War II, the amount of United States grain exported through Canadian eastern elevators has been small, despite lower transportation costs via Montreal rather than via New York, Boston, or Portland. The largest volume since 1951-52 was 207,000 tons of corn and flaxseed in the crop year 1953-54. 17/

Lower cost of export via Montreal compared with the eastern seaboard is indicated by present water and rail rates. The all-water rate for Canadian wheat from Fort William-Port Arthur to Montreal was 22.5 cents per 100 pounds in 1955. The water rate for Canadian grain in 1955 from Fort William-Port Arthur to Buffalo was 11.2 cents per 100 pounds and the export rail rate for wheat from Buffalo to New York was 23.25 cents per 100 pounds. Since ocean rates for exporting wheat are about the same from Montreal and from New York, the total of 34.45 cents per 100 pounds for moving wheat from Fort William-Port Arthur to New York via rail from Buffalo compared with 22.5 cents per 100 pounds for all-water shipments to Montreal indicates lower costs via Montreal of about 12 cents per 100 pounds. This saving would also accrue to United States shippers, assuming

16/ Chevrier, Lionel. Address to Canadian Association of British Manufacturers and Agencies, Toronto, Ontario, April 15, 1955.

17/ Dominion Bureau of Statistics, Grain Trade of Canada, Annual Reports for 1951-52 to 1954-55.

that costs in international trade would be the same for United States and Canadian grain. Although water rates were low in 1955, the differential between Montreal and Buffalo remained about the same in the years 1951-55. Rail rates were somewhat less early in this period.

Despite this apparent cost advantage, little United States grain, as indicated above, has moved for export through the St. Lawrence since World War II. N. R. Danielian, President of the Great Lakes-St. Lawrence Association, suggested one reason: "First and foremost, outbound grain shipments will probably have priority, at least in the eyes of the Canadian Government. This is not theoretical speculation. We have had information during this past year (1954) that American shippers of grain have been unsuccessful in securing passage through the 14 foot canals." 18/ C. D. Howe, former Canadian Minister of Trade and Commerce, has stated that, "the congestion of Canadian grain being handled on the St. Lawrence has made it impossible to handle United States export grain in addition." 19/

Technically, the United States has equal navigation rights with Canada in the use of the Great Lakes-St. Lawrence route, including the use of canals. This is set forth in Article I of the "United States-Canadian Boundary Waters: Treaty of 1909 between the United States and Great Britain." Selection of Canadian or United States grain for shipment, however, is made by grain handlers, including ship and elevator operators.

In 1955, a little over 90 percent of all vessel passages on the St. Lawrence canals were made by Canadian registry ships. 20/ All of the grain elevators which would be used for transshipping grain from lake to ocean ships at lower St. Lawrence ports are Canadian.

Capacity of these elevators may not be large enough to handle both Canadian and United States grain. Minister Howe has said, "I believe that in the future Canadian ports must be prepared again to handle considerable quantities of United States grain. This may well call for grain elevators in addition to those now in operation. This aspect deserves careful study by those responsible for our harbor facilities." 21/ Improvements and additional grain handling facilities are being provided at lower St. Lawrence ports.

This concern with grain handling facilities at lower St. Lawrence ports may indicate most grain exports will not be made directly from lake ports. The cost per cargo ton of operating an ocean-going ship in the Great Lakes may be higher than the cost for a lake ship. This is particularly important for bulk commodities like grain for which transshipment costs are low. Thus, the most likely pattern of grain export shipments would appear to be by lake bulk carrier to lower St. Lawrence ports and

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18/ Danielian, N. R. Address at Detroit Economic Club luncheon, Detroit, Michigan, November 15, 1954.

19/ Howe, C. D. Address to Dominion Marine Association, Seigniory Club, Quebec, January 23, 1957.

20/ Dominion Bureau of Statistics, Canal Statistics, Annual Report for 1955.

21/ Howe, C. D. Address to Dominion Marine Association, Seigniory Club, Quebec, January 23, 1957.



then transshipment to ocean ships. This is in keeping with the statement of the President of the St. Lawrence Seaway Authority, "The Seaway is essentially an inland waterway and can never be anything else." 22/

General cargo for overseas foreign trade is another competitor for United States agricultural commodities in the use of the Welland Canal. Although several difficulties are suggested for the development of this trade, especially for agricultural commodities, any increase in the number of ships using the Welland Canal will add to the congestion which may develop.

With respect to potential commodity movements, therefore, available data and information appear to indicate that there are now about 2 million tons of coal and grain moving down the St. Lawrence, after bypassing the Welland. These may be added in the future to shipments through the Welland Canal when the Seaway is opened. Coal shipments may increase by another million tons due to lower transport costs on the St. Lawrence and supplant coal now reaching the lower St. Lawrence ports from Nova Scotia. In years of high grain exports by Canada, considerably more Canadian grain may also move along the Welland Canal-St. Lawrence route. Capacity of the Welland Canal is limited, and competition from coal and Canadian grain may limit movements of United States grain.

#### Potential Direct Overseas Service

The first factor which favors direct overseas service from Great Lakes ports is lower cost of transportation from Great Lakes ports to overseas points compared with the present route by rail to Atlantic ports and then overseas. The next is interest shown by the Maritime Commission and United States shipping lines. The third factor is past development of direct overseas foreign trade with Lake ports.

Lower cost for direct water transport from Lake ports to European markets compared with rail-water transport via seaboard ports exists today. 23/ Looking to the future, it has been estimated in an earlier study that the added cost of shipping direct from Detroit to Antwerp by water compared with overseas shipping cost from Baltimore to Antwerp would range from \$1.85 to \$4.37 per long ton, depending on type of ship and percentage of ship capacity used. 24/ Thus, land transport cost from Detroit to Baltimore could be no more than 8.3 to 19.5 cents per 100 pounds, or the land-water cost would exceed the cost of shipping overseas direct from Detroit. Ships engaged in the direct overseas transport from Detroit would need to be used during the winter months at Atlantic ports. This comparison

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22/ Chevrier, Lionel, as quoted by E. R. Axelson, The Financial Post, Toronto, Ontario, August 4, 1956.

23/ Brons, Wilbur J., a series of ten articles in The Journal of Commerce June 13, 14, 20, 21, 27, and 28 and July 5, 6, 11, 12, 1955.

24/ Vincent, Sydney A. "The Economics of Future European Great Lakes Freighter Service." Paper presented to Spring Meeting of The Society of Naval Architects and Marine Engineers, Montreal, Canada, May 3 and 4, 1956.



omits consideration of transportation costs to the pier in Detroit. A more complete comparison of costs via Detroit and Baltimore would be the local transport cost to the pier in Detroit plus the water cost, compared with the long-distance transport cost to the pier in Baltimore plus the water cost. However, it seems clear that transportation savings would be realized.

In recognition of this possibility and for other reasons, the Maritime Commission has declared the Great Lakes-St. Lawrence route an essential trade route, making United States ships eligible for subsidies. Several United States shipping lines have applied; however, these subsidies may be omitted in this analysis because they also apply to Atlantic ports. Many of the Lake ports are anticipating increased overseas trade in their port improvement programs. The interest of foreign shipping lines is shown by existing direct overseas service at Lake ports. In 1955, there were 318 ship passages up the St. Lawrence canals to Canadian and United States ports from overseas points. 25/ Of the total passages, 304 were made by ships of foreign registry (other than Canada or the United States), 14 by Canadian ships, and none by United States ships.

This direct overseas trade from Lake ports existed before World War II. Sailings were discontinued during the war, but were resumed in 1946. By 1955 the tonnage of imports and exports for both Canada and the United States had risen to about 700,000 tons. 25/ Total direct overseas exports from United States Lake ports were 288,000 tons. Agricultural products, mostly animal oils and fats, hides and skins, and animal feeds, made up 40 percent of the total direct exports, but no wheat, very little corn, and only small quantities of other grains and grain products were included (table 19).

Some drawbacks are evident, in spite of possible transportation savings, interest by shipping firms, and past experience. Transportation savings are not the sole factor in determining the route used by shippers. 26/ The Seaway will provide shipping service to a limited number of overseas points, because of the size of ships which can be used. Type and volume of direct exports overseas from United States Lake ports in the past have not included bulky agricultural products like grain, except in the form of animal feeds. 27/ Loading and unloading personnel and equipment for year-around shipping service will have to be maintained at both Lake and Atlantic seaboard ports.

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25/ Dominion Bureau of Statistics, Canal Statistics Annual Report for 1955.

26/ By analogy it may be argued that transportation costs for New England produced exports are in most cases lower by shipping via Boston. In spite of this, 75 to 80 percent of New England produced exports move via non-New England ports. Infrequent sailings from Boston is considered the primary reason. Staff Memorandum No. 12, Committee of New England, February 1953.

27/ Grain movements through the Welland and St. Lawrence Canals in the past (table 16) have been Canadian shipments.



Table 19.- Direct exports overseas from United States Great Lakes ports, average 1949-53, annual 1953-55

Commodity group	1949-53 average	1953	1954	1955
	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons
Edible animals and products .....	19	28	18	37
Inedible animals and products .....	5	20	49	39
Vegetable food products and beverages .....	9	18	12	41
Inedible vegetables except fibers and wood .....	3	4	6	10
Textile fibers and manufactures .....	2	2	2	5
Nonmetallic minerals .....	16	16	22	28
Metals and manufactures except machinery and vehicles .....	12	12	36	42
Machinery and vehicles .....	26	32	31	33
Chemicals and related products .....	2	3	12	15
Commodities, n.e.c. ....	11	26	22	38
Total 1/ .....	105	161	210	288

1/ Does not include Department of Defense and S. C. i. cargoes.  
Department of the Army, Corps of Engineers, Water-Borne Commerce of the United States, Annual Reports for 1949-55.

For example, the fact that Great Lakes ports will not be able to provide year-around service may make it even more difficult to attract trade. Loading and unloading equipment and personnel would have to be duplicated and maintained in duplicate for year-around service. Banks, insurance companies, steamship offices and foreign trade brokers would have to provide representatives at both Lake and Atlantic ports. The railroads and ocean ports would have to provide winter service.

Even if duplication is relatively unimportant, Great Lakes ports may be able to provide only limited service to world ports. Exports go to hundreds of places in the world. Many exporters desire carriers which are available on a relatively frequent basis. New York enjoys a leadership in this respect and no doubt will continue to attract much of the export trade. For longer voyages such as those to South America, Africa, Australia, or Asia, it is desirable to use relatively large ships. The limited draft in the Great Lakes may make the use of larger ships impossible.

If direct overseas exports from Great Lakes ports increase 10 times, the maximum possible under present conditions for all ports on the Great Lakes, and if nonagricultural commodities share proportionately in the increase, then tonnage of farm products shipped by this route will not

increase greatly. 28/ The estimate of a tenfold increase may be optimistic in view of limits on the capacity of the Welland Canal. However, a tenfold increase in the present volume would raise direct overseas agricultural exports from Lake ports to about 1 million tons. It has been mentioned that present direct exports include no wheat and very little other grain.

There are reasons to believe that direct overseas trade of the Lake ports will increase but the author also believes there are reasons to question a rapid or extensive increase. The prospects for an increase in agricultural exports may be limited to the equivalent of 30 million bushels of wheat. In contrast, the study by J. R. Hartley suggests that the Seaway will be carrying from 150 to 200 million bushels of United States grain exports by 1966. Savings of 15 to 20 cents a bushel were visualized. 29/ However, D. L. McFarlane's recent paper examines this same question and although he is somewhat more optimistic than the writer about the rate at which overseas trade will increase, he concludes that a 10 cents per bushel cost reduction seems to be about as far as it is safe to go in estimating possible economies in the movement of wheat. 30/

Even if we assume so substantial an increase in grain shipments as 100 to 150 million bushels with transportation savings of at least 10 cents a bushel, the actual amount of assumed savings is still modest, 10 to 15 million dollars. To some extent this saving might so work in competitive channels as to tend to equalize the price of wheat which would mean an average savings, if prorated evenly over commercial sales of 800 million bushels of United States wheat, of 1.25 to 2 cents a bushel. Some wheat producers undoubtedly will benefit more than others from Seaway transportation while at the same time it is unlikely that all of the savings would go to wheat producers, especially so long as they find themselves selling in a surplus market.

#### Potentials for Domestic Service

Extent of water transport service between the Great Lakes and the North Atlantic coast will be based partly on the capacity of the Welland Canal and its limits on ship size. In addition, such a service may not be able to operate at costs below existing transport rates nor be integrated with storage and processing facilities.

A possible level of costs for water service can be estimated from data for similar operations. Grain is an ideal commodity for shipment on this route. It is well suited to water transport, and about 2.5 million tons are received in New England alone each year.

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28/ Danielian, N. R. Address at Detroit Economic Club luncheon, Detroit, Michigan, Nov. 15, 1954.

29/ Hartley, J. R., "The Effects of the St. Lawrence Seaway on Grain Movements," Indiana Business Report, No. 24, Bloomington, Indiana University, 1957.

30/ MacFarlane, D. L., "Impact of the St. Lawrence Seaway on Canadian and New England Agriculture," paper presented at the New England Agriculture Economics Council at Storrs, Conn., June 26, 1957.



But grain shipments alone may not be profitable. Normally, items with a higher value per pound cargo than grain are expected to bear a proportion of cost greater than their proportionate contribution to the total weight of cargo. However, regularly scheduled intracoastal and Great Lakes general cargo steamship service has experienced an extreme drop in volume during the last 10 years. If this service is not being maintained along the coast or within the Great Lakes, there is no substantial basis to expect a service will develop from the Great Lakes to Atlantic coast ports. This route is much more circuitous and, relative to the Atlantic coast, only a part-time operation of 7 or 8 months. Thus, if the service is to come into being, it may have to prove profitable for some bulk cargo like grain.

Only an ocean-going type ship could operate between Chicago and Boston. The maximum tonnage capacity of such a ship using the 27-foot depths of the Seaway has been estimated at 9,000 tons. The estimated per day cost of operating an 8,000-ton ship was \$3,400. 31/ 32/ This includes tolls and other canal fees on the Seaway route, port charges, pilotage and insurance, as well as ship depreciation, repairs, fuel, crew wages, stores and supplies, and overhead. It does not include cargo loading and unloading. 33/ Subsidies do not enter into this estimate, for all domestic water commerce must be carried in United States registry ships. Subsidies are paid to United States shipping lines to enable them to compete with foreign registry shipping lines.

The estimated time required for a one-way trip for this ship is 14 days. This allows for sailing time at 14 knots, reduced speeds in restricted channels, delays at locks, loading, and unloading. The cost per 100 pounds from Chicago to Boston would be 30 cents on the basis of these estimates: 8,000 tons per trip, \$3,400 a day for ship operation and 14 days per trip. Another cost would be loading and unloading the ship. Including weighing and inspection, this operation would cost about 8.5 cents per 100 pounds. 34/

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31/ Vincent, S. A., "The Economics of Future European Great Lakes Freighter Service." (See footnote 24, p. 35.)

32/ In the first part of this article \$2,000 to \$3,000 was stated as the per day cost of operating an ocean-going ship, which represents costs for older ships and for foreign flag ships.

33/ Since this cost figure is for a 4,023 nautical miles voyage, it would not be strictly comparable with a per day cost on a 2,328 nautical miles voyage from Chicago to Boston. Furthermore, this estimate assumes 4 to 5 days for loading and a similar time for unloading. With a bulk cargo, like grain, loading and unloading might well be done in less time. With shorter trips (more tolls for passage through the canals and locks and more port and pilot charges) and less time in port (higher fuel consumption) there is reason to believe that the per day ship operating cost estimated is an underestimate rather than an overestimate.

34/ This figure includes unloading rail cars and loading ship at Chicago, unloading ship and loading rail cars at Boston. Rates were taken from testimony presented by J. T. Sanders, Legislative Counsel, The National Grange, at Senate hearings on the St. Lawrence Seaway, Apr. 14, 1953.



Finally, a local transportation charge would have to be paid from Boston to markets in New England. This is an added cost, since the rail rate from Chicago to Boston applies to all points in New England except northern Maine. The lowest local rate in New England using Brattleboro, Vermont, 35/ as an origin is 14 cents per 100 pounds to nearby points.

The total of all these per 100 pound costs (30 cents for ship operation, 8.5 cents for loading and unloading, and 14 cents for local transport, or 52.5 cents) is 4 cents higher than the present "proportional" rail rate of 48.5 cents per 100 pounds from Chicago to Boston. 36/

The cost estimate for ship operation might be materially reduced using old ships or ships with larger carrying capacity. However, costs have been calculated on only a one-way voyage. If this service were to come into being, some cargo will have to be found to bear the cost of the return voyage. New England does not offer such cargo. Iron ore might be picked up at Seven Islands, but an ocean-going ship of 8,000 tons would not be able to cover its full cost of operation. The rates for this service would be lowered by competition from lake-type ships which could operate from Seven Islands into the Great Lakes.

Even with a saving in transportation costs, a water service would not integrate storage and processing of grain and cover as wide an area as rail service. In the movement of grains from the West and Midwest to consuming centers in the East, numerous facilities have been built along rail routes. Storage, milling, and mixing "in-transit" are privileges offered by the railroads. Through rates are paid for transportation while products change form and are brought together from many areas. Many milling and mixing facilities are located between Chicago and Boston.

Supply would be a problem in winter, when the Great Lakes are frozen for 4 to 5 months of the year. Transportation would have to revert to rail transport or large storage facilities would have to be provided in the East.

For shipment of such perishables as meats by the Seaway, time in transit might rule out a water service. For canned goods, duplication of storage facilities and stronger packaging would be necessary for a water service. More breakage and pilferage might occur. Hides and skins might be suitable cargoes if it were not for extra handling and local transportation charges to and from ports.

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35/ Brattleboro, Vermont, is used here instead of Boston because the local rate from Boston is higher than the rate which would exist if volume movements from Boston occurred.

36/ Brown, A. A., unpublished study of freight rates on feed grains for New England, University of Massachusetts, Amherst, Mass., 1955.



Conclusions 37/

The Seaway will be an important improvement in the Great Lakes-St. Lawrence Waterway System. The deepening of interlake channels which was authorized after work started on the Seaway will also increase potentials. If the Welland locks create another bottleneck, twinning of the five single locks will be needed. Harbors will need deepening and port facilities may have to be improved.

Even with these improvements, it is likely that the Great Lakes-St. Lawrence route will remain primarily an inland waterway. The shallow channels and ports are not the only limiting factor. The route is open only 7 to 8 months of the year. Apparently, the Great Lakes-St. Lawrence route will not provide a lower cost transportation service between the Midwest and the eastern seaboard. Despite this, it is a valuable transport artery for bulk commodities such as iron ore, coal, petroleum, and grain. Direct shipments between the Lakes and the ocean will not be new, but this route will play a growing part in transportation for both Canada and the United States. It seems unwarranted, however, to visualize immediate or radical changes in existing channels of trade for agricultural products from the United States. Over a longer period, however, changes in this respect may be significant. If the Seaway potential is increased under the pressure of larger cargo movement, existing channels of trade for United States agricultural products, including location of processing facilities, may gradually shift.

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37/ It should be pointed out that the discussion of rate comparisons in this report is a preliminary analysis based upon a few possible examples and perhaps inadequate cost figures. A more detailed analysis is currently being made by the Transportation and Facilities Branch of the Agricultural Marketing Service, USDA.

SELECTED NEW PUBLICATIONS

1. "A Summary of Selected Recent Studies on Broiler Financing and Contracting," by Robert I. Beckler, Agr. Market. Serv. Pub. 183, June 1957.
2. "Costs of Packing Colorado Peaches in 1956," by Jules V. Powell, U. S. Dept. Agr. Market. Res. Rpt. 179, July 1957.
3. "Development of the Commercial Poultry Slaughter Report - Improving Market News Through Marketing Research," by Fred L. Faber, Agr. Market. Serv. Pub. 174, Mar. 1957.
4. "Fabrics and Fibers for Passenger Cars - Automobile Manufacturers' Views 1955 Compared with 1950," by Milton Jacobs, contract rpt. with Stewart, Dougall & Associates, Inc., of New York, N. Y., U. S. Dept. Agr. Market. Res. Rpt. 152, Apr. 1957.
5. "Fresh Fruit and Vegetable Prepackaging, Northeastern Region, Operating Season - 1954-55," by Thomas B. Smith and John W. Browning, U. S. Dept. Agr. Market. Res. Rpt. 154, Feb. 1957. (Cornell Univ. and AMS cooperating.)
6. "Influence of Hatcheries on Broiler Production in the Western States," by Charles M. Fischer, Oreg. Agr. Expt. Sta. Bul. 560, May 1957. (A Western Region. Res. Pub.)
7. "Losses from Quality Deterioration and Shrinkage of Corn Resealed on Iowa Farms," by Eileen M. McDonald, Richard Phillips, and David N. Harrington, Agr. Market. Serv. Pub. 166, Mar. 1957.
8. "Marketing Molasses in the Feed-Mixing Industry," by Frederick J. Poats, U. S. Dept. Agr. Market. Res. Rpt. 174, May 1957.
9. "Measurement of the Rate of Movement of Apples into Consumption and Factors Associated with the Movement of Apples in Retail Food Stores," by Peter L. Henderson, Va. Agr. Expt. Sta. Tech. Bul. 129, Jan. 1957. (Northeast Region. Pub. 28.)
10. "Men's Ownership of Selected Clothing Items and Their Fiber Preferences," by Milton Jacobs and Daniel Levine, contract rpt. with Crossley, S-D Surveys, Inc., of New York, Prelim. Summary Rpt., Agr. Market. Serv. Pub. 181, Apr. 1957.
11. "Orange Tree to Breakfast Table - Marketing Costs and Margins for Florida Oranges," by Alden C. Manchester, U. S. Dept. Agr. Market. Res. Rpt. 164, June 1957.
12. "Pricing Eggs at Wholesale in Chicago and St. Louis," by Norris T. Pritchard and O. C. Hester, U. S. Dept. Agr. Market. Res. Rpt. 173, May 1957.
13. "Processed Binders for Cigars - The Effect on the Market for Binder-Type Tobacco," by C. I. Hendrickson, Agr. Market. Serv. Pub. 189, May 1957.
14. "Processing Poultry Byproducts in Poultry Slaughtering Plants," by L. L. Lortscher, G. F. Sachsels, Odin Welhelmy, Jr., and R. B. Filbert, Jr., contract rpt. with the Battelle Memorial Institute, U. S. Dept. Agr. Market. Res. Rpt. 181, June 1957.
15. "Procurement Policies and Practices of a Selected Group of Dairy Processing Firms. Part 2. Managerial Aspects of Price and Nonprice Competitive Behavior Among Nine Dairy Processing Firms," by Robert L. Clodius, Darrell F. Fienup, and R. Larry Kristjanson, contract rpt. with U. S. Dept. Agr., Wis. Agr. Expt. Sta. Res. Bul. 199, Feb. 1957.
16. "Production of Frozen Prepared Foods, 1954-55," by Robert B. Reese, U. S. Dept. Agr. Market. Res. Rpt. 170, May 1957.



17. "Special Margins and Costs Studies," Agr. Market. Serv., U. S. Dept. Agr. Market. Res. Rpt. 167, Apr. 1957. (Reprinted from Hearings (Part 2) Before the Subcommittee of the Committee on Appropriations, House of Representatives, Eighty-Fifth Congress, First Session.)
18. "The Position of Dairying in the South," by Floyd L. Corty in collaboration with James F. Miles, W. H. Alexander, J. H. Blackstone, M. L. Downen, R. B. Halpin, H. A. Homme, H. J. Meenen, J. C. Purcell, and A. D. Seale, Jr., Southern Coop. Series Bul. 46, Sept. 1956. (Agr. Expt. Stas. of Ala., Ark., Ga., La., Miss., N. C., S. C., Tenn., Tex., and AMS cooperating.)
19. "The Transportation and Handling of Grain by Motortruck in the Southwest," by William J. Hudson and Earl K. Henschen, Agr. Market. Serv. Pub. 175, Issued May 1952, Reissued Apr. 1957.
20. "Wholesale Food Market Facilities - Types of Ownership and Methods of Financing," by Harry G. Clowes, William H. Elliott, and William C. Crow, U. S. Dept. Agr. Market. Res. Rpt. 160, Apr. 1957.

Publications issued by State Agricultural Experiment  
Stations may be obtained from the issuing Station.

Table 20.- Farm food products: Retail cost and farm value, April-June 1957, January-March 1957, April-June 1956 and 1947-49 average 1/

Product	Retail unit	Retail cost						Net farm value 2/					
		Apr.-June 1957		Jan.-Mar. 1957		Apr.-June 1956		Apr.-June 1957		Jan.-Mar. 1957		Apr.-June 1956	
		Percentage change:		Percentage change:		Percentage change:		Percentage change:		Percentage change:		Percentage change:	
		1947-49 average	from 1957	1947-49 average	from 1957	1947-49 average	from 1957	1947-49 average	from 1957	1947-49 average	from 1957	1947-49 average	from 1957
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Dollars	Dollars	Dollars	Dollars	Percent	Percent
Market basket .....	(:)	1,003.76	987.93	971.74	954.76	+ 2	+ 3	393.77	4/386.76	4/394.28	467.91	+ 2	5/
Meat products .....	(:)	261.62	249.46	232.47	261.20	+ 5	+ 13	140.78	128.76	4/123.68	176.11	+ 9	+ 14
Dairy products .....	(:)	183.65	189.76	182.69	168.37	- 1	+ 3	84.66	87.74	83.48	90.88	- 4	+ 1
Poultry and eggs .....	Average quantities purchased	89.53	92.35	97.79	116.87	- 3	- 8	53.11	54.86	61.59	80.53	- 3	- 14
Bakery and cereal products	per urban wage-earner and clerical-worker	156.75	154.31	149.75	121.94	+ 1	+ 5	31.13	4/32.37	4/31.04	33.16	- 4	5/
All ingredients .....	family in 1952	130.85	124.36	133.38	103.57	+ 5	- 2	44.85	42.74	4/52.77	41.85	+ 5	- 15
Grain .....	in 1952	70.08	66.19	73.57	53.14	+ 6	- 5	21.02	19.97	4/28.82	23.77	+ 5	- 27
All fruits and vegetables	(:)	219.42	213.79	223.87	195.26	+ 3	- 2	62.49	4/60.51	4/71.69	61.28	+ 3	- 13
Fresh fruits and vegetables	(:)	130.85	124.36	133.38	103.57	+ 5	- 2	44.85	42.74	4/52.77	41.85	+ 5	- 15
Fresh vegetables .....	(:)	70.08	66.19	73.57	53.14	+ 6	- 5	21.02	19.97	4/28.82	23.77	+ 5	- 27
Processed fruits and vegetables	(:)	88.57	89.44	90.49	91.69	- 1	- 2	17.64	17.77	4/18.91	19.43	- 1	- 7
Fats and oils .....	(:)	45.59	45.70	43.67	52.25	5/	+ 4	14.72	4/15.67	4/15.86	18.92	- 6	- 7
Miscellaneous products	(:)	42.20	42.06	41.50	38.87	5/	+ 2	6.88	6.85	4/6.94	7.03	5/	- 1
		Cents	Cents	Cents	Cents	Percent	Percent	Cents	Cents	Cents	Cents	Percent	Percent
Beef (Choice grade) .....	Pound	69.9	66.4	62.6	68.5	+ 5	+ 12	41.6	37.4	36.8	48.5	+ 11	+ 13
Pork (excluding lard) .....	Pound	53.4	51.1	46.3	52.8	+ 5	+ 15	29.1	27.2	24.8	35.2	+ 7	+ 17
Butter .....	Pound	73.9	74.2	71.4	79.4	5/	+ 4	47.8	47.9	46.9	57.4	5/	+ 2
Cheese, American processed	Pound	57.4	57.4	57.1	52.7	0	+ 1	28.5	29.4	28.4	32.0	- 3	5/
Evaporated milk .....	14 1/2 ounce can	14.5	14.3	13.9	13.7	+ 1	+ 4	6.2	6.5	6.2	7.1	- 5	0
Fluid milk .....	Quart	23.7	23.9	22.8	19.9	- 1	+ 4	10.4	10.8	10.2	10.6	- 4	+ 2
Chickens, frying .....	Pound	46.2	45.5	47.2	---	+ 2	- 2	26.2	25.3	26.9	---	+ 4	- 3
Eggs .....	Dozen	47.7	51.3	55.4	66.7	- 7	- 14	30.5	33.2	38.6	48.0	- 8	- 21
Bread, white .....	Pound	18.8	18.5	17.7	13.5	+ 2	+ 6	2.6	2.7	2.6	2.6	- 4	0
Crackers, soda .....	Pound	29.0	28.4	27.4	---	+ 2	+ 6	4.1	4.2	4.0	---	- 2	+ 2
Corn flakes .....	12 ounces	23.0	22.9	21.8	17.0	5/	+ 6	2.9	2.9	2.9	3.2	0	0
Corn meal .....	Pound	12.8	12.7	12.5	11.8	+ 1	+ 2	3.0	3.0	3.0	3.6	0	0
Flour, white .....	5 pounds	54.6	54.1	53.4	48.4	+ 1	+ 2	20.2	20.9	20.0	20.5	- 3	+ 1
Rice .....	Pound	18.6	18.5	18.5	19.2	+ 1	+ 1	6.9	6.9	6.4	7.8	0	+ 8
Rollled oats .....	20 ounces	22.0	21.3	19.3	16.1	+ 3	+ 14	4.6	4.8	4.2	5.4	- 4	+ 10
Apples .....	Pound	---	15.3	---	11.3	---	---	---	7.4	---	5.2	---	---
Grapefruit .....	Each	11.4	11.1	11.1	8.7	+ 3	+ 3	2.1	2.1	2.2	1.6	0	- 5
Lemons .....	Pound	18.4	20.6	17.6	17.7	- 11	+ 5	4.5	5.8	5.1	5.7	- 22	- 12
Oranges .....	Dozen	54.7	54.5	54.8	46.6	5/	5/	17.0	17.7	21.3	12.6	- 4	- 20
Beans, green .....	Pound	25.8	30.3	27.0	21.0	- 15	- 4	10.1	13.3	12.4	9.2	- 24	- 19
Cabbage .....	Pound	9.6	8.9	8.3	6.9	+ 8	+ 16	2.3	2.3	2.0	1.9	0	+ 15
Carrots .....	Pound	14.1	13.3	13.0	11.1	+ 6	+ 8	3.0	2.0	3.5	4.2	+ 50	- 14
Lettuce .....	Head	16.0	16.3	15.7	14.5	- 2	+ 2	5.8	5.2	5.5	6.4	+ 12	+ 5
Onions .....	Pound	11.7	8.3	9.9	8.4	+ 41	+ 18	4.8	2.7	4.2	3.7	+ 78	+ 14
Potatoes .....	10 pounds	57.2	55.9	79.6	51.9	+ 2	- 23	13.4	15.0	38.0	25.7	- 11	- 65
Sweetpotatoes .....	Pound	6/15.2	13.5	6/12.2	11.2	+ 13	+ 25	6/6.0	5.3	4/6/3.4	4.7	+ 13	+ 76
Tomatoes .....	Pound	37.2	30.8	31.8	---	+ 21	+ 17	11.1	9.1	9.5	---	+ 22	+ 17
Peaches, canned .....	No. 2-1/2 can	34.7	34.5	35.0	31.5	+ 1	- 1	6.6	6.6	7.6	5.3	0	- 13
Orange juice, canned	46 ounce can	36.2	37.7	36.8	---	- 4	- 2	10.6	10.5	11.5	---	+ 1	- 8
Corn, canned .....	No. 303 can	17.1	17.2	18.0	16.7	- 1	- 5	2.5	2.5	2.4	2.7	0	+ 4
Peas, canned .....	No. 303 can	21.5	21.4	21.6	21.4	5/	5/	3.2	3.2	3.1	3.0	0	+ 3
Tomatoes, canned	No. 303 can	14.8	14.9	15.3	14.3	- 1	- 3	2.4	2.4	2.3	2.6	0	+ 4
Beans with pork, canned	16 ounce can	14.6	14.7	14.5	---	- 1	+ 1	2.3	2.2	2.3	---	+ 5	0
Orange juice concentrate, frozen	6 ounce can	18.2	19.0	19.6	---	- 4	- 7	6.2	7.0	7.4	---	- 11	- 16
Strawberries, frozen	10 ounces	26.7	28.3	30.3	---	- 6	- 12	7.2	7.4	8.4	---	- 3	- 14
Beans, green, frozen	10 ounces	23.7	23.2	23.2	---	+ 2	+ 2	5.1	5.1	4/4.7	---	0	+ 9
Peas, frozen	10 ounces	19.6	20.0	21.3	---	- 2	- 8	3.3	3.3	3.1	---	0	+ 6
Dried prunes .....	Pound	34.3	34.5	35.9	23.1	- 1	- 4	9.5	9.5	13.5	8.8	0	- 30
Navy beans .....	Pound	16.0	16.0	16.2	19.9	0	- 1	6.5	6.3	6.7	9.7	+ 3	- 3
Margarine, colored	Pound	30.1	30.4	29.1	39.7	- 1	+ 3	9.6	4/10.2	10.6	12.4	- 6	- 9
Peanut butter .....	Pound	53.6	53.5	53.4	---	5/	5/	19.6	19.7	20.8	---	- 1	- 6
Salad dressing .....	Pint	37.3	36.7	35.3	37.8	+ 2	+ 6	7.6	4/8.3	8.9	10.0	- 8	- 15
Vegetable shortening	3 pounds	99.2	100.0	96.9	105.6	- 1	+ 2	34.4	4/36.5	38.0	46.2	- 6	- 9
Corn sirup .....	24 ounces	24.8	24.6	23.5	---	+ 1	+ 6	3.3	3.2	3.6	---	+ 3	- 8
Sugar .....	5 pounds	55.0	54.6	52.7	48.4	+ 1	+ 4	4/20.0	20.0	4/20.0	19.4	0	0

1/ Information concerning the sources of price data and calculations of net farm values are given in the Supplement to the July-Sept. 1953 issue of this Situation. Product groups include more items than those listed in this table. For example, the meat products group includes lamb, veal, and lower grades of beef in addition to pork and carcass beef of Choice grade.

2/ Gross farm value adjusted to exclude imputed values of byproducts obtained in processing.

3/ Preliminary estimates.

4/ Revised.

5/ Less than 0.5 percent.

6/ 2-month average.



Table 21.- Farm food products: Marketing margin and farmer's share of the retail cost, April-June 1957, January-March 1957, April-June 1956, and 1947-49 average 1/

Product	Retail unit	Marketing margin 2/				Percentage change		Farmer's share			
		Apr.-June 1957	Jan.-Mar. 1957	Apr.-June 1956	1947-49 average	Apr.-June 1957 from -		Apr.-June 1957	Jan.-Mar. 1957	Apr.-June 1956	1947-49 average
		3/	1957	1956	average	Jan.-Mar. 1957	Apr.-June 1956	3/	1957	1956	average
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent	Percent	Percent
Market basket .....	(	609.99	4/601.17	4/577.46	486.85	+ 1	+ 6	39	39	41	49
Meat products .....	(	120.84	120.70	4/108.79	85.09	5/	+ 11	54	52	53	67
Dairy products .....	(	103.99	102.02	99.21	77.49	+ 2	+ 5	45	46	46	54
Poultry and eggs .....	Average quantitics purchased (	36.42	37.49	36.20	36.34	- 3	+ 1	59	59	63	69
Bakery and cereal products .....	per urban wage-earner (	125.62	4/122.44	4/118.71	88.78	+ 3	+ 6	20	21	21	27
All ingredients .....	and (	---	---	---	---	---	---	15	16	16	---
Grain .....	clerical- (	---	---	---	---	---	---	---	---	---	---
All fruits and vegetables ....	worker (	156.93	4/153.28	4/152.18	133.98	+ 2	+ 3	28	28	32	31
Fresh fruits and vegetables ..	family (	86.00	81.62	4/ 80.61	61.72	+ 5	+ 7	34	34	40	40
Fresh vegetables .....	in 1952 (	49.06	46.22	4/ 44.75	29.37	+ 6	+ 10	30	30	39	45
Processed fruits and vegetables .....	(	70.93	71.67	4/ 71.58	72.26	- 1	- 1	20	20	21	21
Fats and oils .....	(	30.87	4/ 30.03	4/ 27.81	33.33	+ 3	+ 11	32	4/34	36	36
Miscellaneous products .....	(	35.32	35.21	4/ 34.56	31.34	5/	+ 2	16	16	4/17	18
		Cents	Cents	Cents	Cents	Percent	Percent	Percent	Percent	Percent	Percent
Beef (Choice grade) .....	Pound	28.3	29.0	25.8	20.0	- 2	+ 10	60	56	59	71
Pork (excluding lard) .....	Pound	24.3	23.9	21.5	17.6	+ 2	+ 13	54	53	54	67
Butter .....	Pound	26.1	26.3	24.5	22.0	- 1	+ 7	65	65	66	72
Cheese, American processed ....	Pound	28.9	28.0	28.7	20.7	+ 3	+ 1	50	51	50	61
Evaporated milk .....	14 1/2 ounce can:	8.3	7.8	7.7	6.6	+ 6	+ 8	43	45	45	52
Fluid milk .....	Quart	13.3	13.1	12.6	9.3	+ 2	+ 6	44	45	45	53
Chickens, frying .....	Pound	20.0	20.2	20.3	---	- 1	- 1	57	56	57	---
Eggs .....	Dozen	17.2	18.1	16.8	18.7	- 5	+ 2	64	65	70	72
Bread, white .....	Pound	16.2	15.8	15.1	10.9	+ 3	+ 7	14	15	15	19
Crackers, soda .....	Pound	24.9	24.2	23.4	---	+ 3	+ 6	14	15	15	---
Corn flakes .....	12 ounces	20.1	20.0	18.9	13.8	5/	+ 6	13	13	13	19
Corn meal .....	Pound	9.8	9.7	9.5	8.2	+ 1	+ 3	23	24	24	31
Flour, white .....	5 pounds	34.4	33.2	33.4	27.9	+ 4	+ 3	37	39	37	42
Rice .....	Pound	11.7	11.6	12.1	11.4	+ 1	- 3	37	37	35	41
Rollod oats .....	20 ounces	17.4	16.5	15.1	10.7	+ 5	+ 15	21	23	22	34
Apples .....	Pound	---	7.9	---	6.1	---	---	---	48	---	46
Grapefruit .....	Each	9.3	9.0	8.9	7.1	+ 3	+ 4	18	19	20	13
Lemons .....	Pound	13.9	14.8	12.5	12.0	- 6	+ 11	24	28	29	32
Oranges .....	Dozen	37.7	36.8	33.5	34.0	+ 2	+ 13	31	32	39	27
Beans, green .....	Pound	15.7	17.0	14.6	11.8	- 8	+ 8	39	44	46	44
Cabbage .....	Pound	7.3	6.6	6.3	5.0	+ 11	+ 16	24	26	24	28
Carrots .....	Bunch	11.1	11.3	9.5	6.9	- 2	+ 17	21	15	27	38
Lettuce .....	Head	10.2	11.1	10.2	8.1	- 8	0	36	32	35	44
Onions .....	Pound	6.9	5.6	5.7	4.7	+ 23	+ 21	41	33	42	44
Potatoes .....	10 pounds	43.8	40.9	41.6	26.2	+ 7	+ 5	23	27	48	50
Sweetpotatoes .....	Pound	6/ 9.2	8.2	4/8.8	6.5	+ 12	+ 5	6/39	39	4/6/28	42
Tomatoes .....	Pound	26.1	21.7	22.3	---	+ 20	+ 17	30	30	30	---
Peaches, canned .....	No. 2-1/2 can:	28.1	27.9	27.4	26.2	+ 1	+ 3	19	19	22	17
Orange juice, canned .....	46 ounce can:	25.6	27.2	25.3	---	- 6	+ 1	29	28	31	---
Corn, canned .....	No. 303 can:	14.6	14.7	15.6	14.0	- 1	- 6	15	15	13	16
Peas, canned .....	No. 303 can:	18.3	18.2	18.5	18.4	+ 1	- 1	15	15	14	14
Tomatoes, canned .....	No. 303 can:	12.4	12.5	13.0	11.7	- 1	- 5	16	16	15	18
Beans with pork, canned .....	16 ounce can:	12.3	12.5	12.2	---	- 2	+ 1	16	15	16	---
Orange juice concentrate, frozen:	6 ounce can:	12.0	12.0	12.2	---	0	- 2	34	37	38	---
Strawberries, frozen .....	10 ounces	19.5	20.9	21.9	---	- 7	- 11	27	26	28	---
Beans, green, frozen .....	10 ounces	18.6	18.1	4/18.5	---	+ 3	+ 1	22	22	20	---
Peas, frozen .....	10 ounces	16.3	16.7	18.2	---	- 2	- 10	17	16	15	---
Dried prunes .....	Pound	24.8	25.0	22.4	14.3	- 1	+ 11	28	28	38	38
Navy beans .....	Pound	9.5	9.7	9.5	10.2	- 2	0	41	39	41	49
Margarine, colored .....	Pound	20.5	4/20.2	18.5	27.3	+ 1	+ 11	32	4/34	36	31
Peanut butter .....	Pound	34.0	33.8	32.6	---	+ 1	+ 4	37	37	39	---
Salad dressing .....	Pint	29.7	4/28.4	26.4	27.3	+ 5	+ 12	20	4/23	25	26
Vegetable shortening .....	3 pounds	64.8	4/63.5	58.9	59.4	+ 2	+ 10	35	4/36	39	44
Corn sirup .....	24 ounces	21.5	21.4	19.9	---	5/	+ 8	13	13	15	---
Sugar .....	5 pounds	4/35.0	34.6	4/32.7	29.0	+ 1	+ 7	4/36	37	4/38	40

1/ Information concerning the calculation of the marketing margin and farmer's share are given in the Supplement to the July-Sept. 1953 issue of this Situation. Product groups include more items than those listed in this table. For example, the meat products group includes lamb, veal, and lower grades of beef in addition to pork and carcass beef of Choice grade.

2/ The marketing margin is the difference between the retail cost and the net farm value, table 20.

3/ Preliminary estimates.

4/ Revised.

5/ Less than 0.5 percent.

6/ 2-month average.

Table 22.- Farm food products: Retail cost, farm value of equivalent quantities sold by producers, byproduct allowance, marketing margin, and farmer's share of retail cost, April-June 1957 1/

Product	Farm equivalent	Retail unit	Retail cost	Gross farm value	Byproduct allowance	Net farm value	Margin	Farmer's share
			Dollars	Dollars	Dollars	Dollars	Dollars	Percent
Market basket .....			1,003.76	—	—	393.77	609.99	39
Meat products .....			261.62	—	—	140.78	120.84	54
Dairy products .....			188.65	—	—	84.66	103.99	45
Poultry and eggs .....		Average quantities purchased	89.53	—	—	53.11	36.42	59
Bakery and cereal products	Farm produce equivalent	per urban						
All ingredients .....	to products bought	wage-earner	156.75	—	—	31.13	125.62	20
Grain ....	by urban families	and	—	27.62	3.81	23.81	—	15
		clerical-						
All fruits and vegetables ....		worker	219.42	—	—	62.49	156.93	28
Fresh fruits and vegetables		family	130.85	—	—	44.85	86.00	34
Fresh vegetables .....		in 1952	70.08	—	—	21.02	49.06	30
Processed fruits and vegetables .....			88.57	—	—	17.64	70.93	20
Fats and oils .....			45.59	—	—	14.72	30.87	32
Miscellaneous products .....			42.20	—	—	6.88	35.32	16
			Cents	Cents	Cents	Cents	Cents	Percent
Beef (Choice grade) .....	2.16 lb. Choice grade cattle	Pound	69.9	45.5	3.9	41.6	28.3	60
Pork (excluding lard) .....	1.82 lb. hogs	Pound	53.4	32.2	3.1	29.1	24.3	54
Butter .....	Cream and whole milk	Pound	73.9	—	—	47.8	26.1	65
Cheese, American processed .....	Milk for American cheese	Pound	57.4	—	—	28.5	28.9	50
Evaporated milk .....	Milk for evaporating	14 1/2 ounce can	14.5	—	—	6.2	8.3	43
Fluid milk .....	Wholesale fluid milk	Quart	23.7	—	—	10.4	13.3	44
Chickens, frying .....	Commercial broilers	Pound	46.2	—	—	26.2	20.0	57
Eggs .....	1.03 doz.	Dozen	47.7	—	—	30.5	17.2	64
Bread, white .....	.912 lb. wheat	Pound	18.8	3.0	.4	2.6	16.2	14
Crackers, soda .....	1.41 lb. wheat	Pound	29.0	4.7	.6	4.1	24.9	14
Corn flakes .....	1.57 lb. white corn	12 ounces	23.0	4.0	1.1	2.9	20.1	13
Corn meal .....	1.34 lb. white corn	Pound	12.8	3.4	.4	3.0	9.8	23
Flour, white .....	7.04 lb. wheat	5 pounds	54.6	23.2	3.0	20.2	34.4	37
Rice .....	1.68 lb. rough rice	Pound	18.6	8.1	1.2	6.9	11.7	37
Rolled oats .....	2.56 lb. oats	20 ounces	22.0	5.5	.9	4.6	17.4	21
Apples .....	1.08 lb. apples	Pound	—	—	—	—	—	—
Grapefruit .....	1.04 grapefruit	Each	11.4	—	—	2.1	9.3	18
Lemons .....	1.04 lb. lemons	Pound	18.4	—	—	4.5	13.9	24
Oranges .....	1.04 doz. oranges	Dozen	54.7	—	—	17.0	37.7	31
Beans, green .....	1.09 lb. snap beans	Pound	25.8	—	—	10.1	15.7	39
Cabbage .....	1.10 lb. cabbage	Pound	9.6	—	—	2.3	7.3	24
Carrots .....	1.11 lb. carrots	Bunch	14.1	—	—	3.0	11.1	21
Lettuce .....	1.30 lb. lettuce	Head	16.0	—	—	5.8	10.2	36
Onions .....	1.06 lb. onions	Pound	11.7	—	—	4.8	6.9	41
Potatoes .....	10.42 lb. potatoes	10 pounds	57.2	—	—	13.4	43.8	23
Sweetpotatoes 2/ .....	1.12 lb. sweetpotatoes	Pound	15.2	—	—	6.0	9.2	39
Tomatoes .....	1.18 lb. tomatoes	Pound	37.2	—	—	11.1	26.1	30
Peaches, canned .....	1.39 lb. Calif. cling	No. 2-1/2 can	34.7	—	—	6.6	28.1	19
Orange juice, canned .....	5.38 lb. Fla. oranges for canning	46 ounce can	36.2	—	—	10.6	25.6	29
Corn, canned .....	2.49 lb. sweet corn	No. 303 can	17.1	—	—	2.5	14.6	15
Peas, canned .....	.69 lb. peas for canning	No. 303 can	21.5	—	—	3.2	18.3	15
Tomatoes, canned .....	1.84 lb. tomatoes for processing	No. 303 can	14.8	—	—	2.4	12.4	16
Beans with pork, canned .....	.35 lb. Mich. pea beans	16 ounce can	14.6	—	—	2.3	12.3	16
Orange juice concentrate, frozen	3.05 lb. Fla. oranges for frozen concentrated juice	6 ounce can	18.2	—	—	6.2	12.0	34
Strawberries, frozen .....	.51 lb. strawberries for processing	10 ounces	26.7	—	—	7.2	19.5	27
Beans, green, frozen .....	.79 lb. beans for processing	10 ounces	23.7	—	—	5.1	18.6	22
Peas, frozen .....	.70 lb. peas for freezing	10 ounces	19.6	—	—	3.3	16.3	17
Dried prunes .....	.97 lb. dried prunes	Pound	34.3	—	—	9.5	24.8	28
Navy beans .....	1.00 lb. Mich. pea beans	Pound	16.0	—	—	6.5	9.5	41
Margarine, colored .....	Soybeans, cottonseed, and milk	Pound	30.1	—	—	9.6	20.5	32
Peanut butter .....	1.77 lb. peanuts	Pound	53.6	—	—	19.6	34.0	37
Salad dressing .....	Cottonseed, soybeans, sugar, and eggs	Pint	37.3	—	—	7.6	29.7	20
Vegetable shortening .....	Soybeans and cottonseed	3 pounds	99.2	—	—	34.4	64.8	35
Corn sirup .....	1.9 lb. corn	24 ounces	24.8	4.1	.8	3.3	21.5	13
Sugar .....	35.60 lb. sugar beets	5 pounds	55.0	21.0	1.0	2/20.0	3/35.0	3/36.

1/ Information concerning the sources of price data and calculation of net farm values, marketing margins, and the farmer's share are given in the Supplement to the July-Sept. 1953 issue of this Situation. Product groups include more items than those listed in this table. For example, the meat products group includes lamb, veal, and lower grades of beef in addition to pork and carcass beef of Choice grade.

2/ 2-month average.

3/ Net farm value adjusted for Government payments to producers was 23.9 cents, margin adjusted for Government processor tax was 32.3 cents, farmer's share of retail cost based on adjusted farm value was 43 percent.

Preliminary estimates.



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